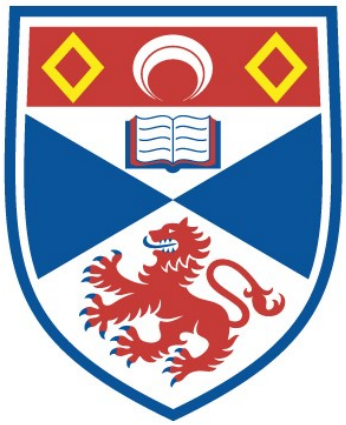
TIME, FIXITY, AND THE METAPHYSICS OF THE FUTURE

Joseph Diekemper

A Thesis Submitted for the Degree of PhD
at the
University of St Andrews



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Joseph Diekemper

Submitted for the Degree of Ph.D. in Philosophy on April 19, 2005

THESIS ABSTRACT

Philosophers who work on time often ignore the implications their doctrines have for the common sense intuition that the past is fixed and the future not. Similarly, those who work on fatalism, and whose arguments often imply an assertion or denial of the common sense intuition, rarely take into account the implicit dependence their arguments have upon specific theories of time. I take the intuition, and its relation to the nature of time, seriously. In Part I of my thesis, I investigate the relations between the dynamic and static theories of time, on the one hand, and the intuition, on the other. I argue that the so called 'pure' forms of these theories, inasmuch as they both posit an ontological temporal symmetry, cannot do justice to the intuition. The 'pure' B-Theory, with its denial of objective temporal becoming, cannot allow for a robust sense in which the future is non-fixed. The 'pure' A-Theory, according to which only the present exists, acknowledges the robustness of the asymmetry, but cannot provide a ground for it. I conclude Part I of my thesis with the claim that only a conception of time according to which the past exists and the future does not, can account for the intuition. In Part II, I discuss those fatalistic arguments which rely upon the determinateness of future truth as their key premise, and argue that these fail either because they rely on an illegitimate modal concept, or because they rely on a key undefended assumption. Finally, in the Epilogue, I provide a more detailed sketch of the account of time posited at the end of Part I, and suggest that it can also provide a more thoroughgoing rejection of the logical fatalistic argument.

DECLARATIONS

I, Joseph Diekemper, hereby certify that this thesis, which is approximately 66,000 words in length, has been written by me, that it is the record of work carried out by me, and that it has not been submitted in any previous application for a higher degree.

Date 26.09.05 Signature of candidate

I was admitted as a research student in October 2001 and as a candidate for the degree of Ph.D. in October 2001; the higher study for which this is a record was carried out in the University of St. Andrews between 2001 and 2005.

Date 26.09.05 Signature of candidate

I hereby certify that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate for the degree of Ph.D. in the University of St. Andrews, and that the candidate is qualified to submit this thesis in application for that degree.

Date 5 Oct., 2005 Signature of supervisor

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Finally, I would like to dedicate this thesis to my wife, Susan, and my precious little daughter, Anna, both of whom have endured much so that it might be accomplished.

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PART II: TIME, FIXITY, AND TRUTH

INTRODUCTION

Philosophers who work on time often ignore the implications their doctrines have for the common sense intuition that the past is fixed and the future is non-fixed. Similarly, those who work on fatalism, and whose arguments often imply an assertion or denial of the common sense intuition, rarely take into account the implicit dependence their arguments have upon specific theories of time. I take this intuition about the asymmetry of fixity, and its relation to the nature of time, seriously. It is my purpose in this thesis to discover what conception of time allows for, and does justice to, the intuition. I will, therefore, be taking the intuition for granted, and will be using it as a guide throughout the ensuing investigation. In this Introduction, I will first discuss some terminological issues, and then provide a sketch of the organization and direction of the thesis.

I. Terminology

A. 'Fixity'

First, what does the guiding intuition tell us? What is the asymmetry of fixity? My thesis will have much to say about that, but, in order to get us started, I should offer an initial, rough characterization of it. One fairly non-controversial candidate for such a characterization is that the past is (in some temporally relative sense) necessary, while the future is (in a corresponding sense) merely possible.[1] This characterization has two virtues: it is sufficiently vague to avoid begging the question against the mainstream of analytic philosophers, yet it is also sufficiently intuitive to motivate the current project. Unfortunately, however, I do not wish to endorse this modal characterization of the asymmetry. In fact, as I will make clear in subsequent

[1] Here I do not intend for 'merely possible' to be rendered as 'non-actual', since that would beg the question against the eternalist. But such a rendering of 'merely possible' is only required by an absolute (and so tenseless) modality (since, according to tenseless possible worlds semantics, an event that will actually occur is not *merely* possible). Given, however, the temporal relativity of the modal expressions here, my inclusion of the modifier 'merely' should be uncontroversial—even for an

chapters, I think it is misleading and fundamentally inaccurate.[2] Another candidate for characterizing the asymmetry can be derived from Aristotle's act/potency distinction: the past is actual, while the future is merely potential.[3] Of course, Aristotle did not use this distinction to characterize temporal asymmetry. In fact, he thought that the present and past were both necessary, but we may borrow the distinction while applying it differently than did Aristotle.

Now, while I think the actuality/potentiality characterization of the asymmetry is also highly intuitive, it does suffer from being more controversial than the temporal necessity/possibility characterization. This is because many contemporary philosophers, namely, those who endorse a B-Theory of time[4], think that events can only be actual *simpliciter*, not actual at (or as of) a time. In other words, these philosophers (the B-Theorists) think that all events that have occurred, are occurring, and will occur are actual. Whereas, according to the actuality/potentiality characterization of the asymmetry, events are *actualized* or *become actual* at a time. So, if I argue in this thesis that the B-Theory cannot account for the asymmetry of fixity, where the latter is characterized in terms of an actuality/potentiality asymmetry, then I will not have achieved much, since the B-Theorists do not embrace such an asymmetry. For this reason, when I discuss the B-Theory and its implications for the asymmetry of fixity (in Chapter 1), I will allow the modal characterization (i.e. in terms of temporal necessity/possibility) for the sake of argument, with the understanding that I neither approve of, nor intend to retain, that characterization.

So the initial, rough characterization of the asymmetry of fixity is that the past is actual and the future is potential, UNLESS you are a B-Theorist; then it is that the

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eternalist. To make my intention clear, I will often refer to the modal characterization of fixity as 'temporal' necessity/possibility. For a survey of temporal modality, see Chapter 3.

[2] See Chapters 3 and 4.

[3] This seems to be Ockham's characterization of the asymmetry (see Adams and Kretzmann (1969: Introduction), and Zagzebski (1991: 18)). Though Ockham also attributed an 'accidental' necessity to the past. See Ch. 3, Section II.B.

past is (in some temporally relative sense) necessary, while the future is (in a corresponding sense) merely possible.[5] For the time being, then, I will characterize fixity and non-fixity disjunctively as 'actuality (or temporal necessity)' and 'potentiality (or temporal possibility)' (respectively), allowing the reader to choose which of the two characterizations they prefer. Whichever one prefers, the common sense idea that both characterizations are meant to capture is that the past is over and done with, and so inexorable, in a way that the future is not. Developing a more specific account of the fixity of the past and the non-fixity of the future will constitute a significant part of the investigation in Chapters 1 and 2. Nevertheless, I should also say, here, a little bit more about what I do *not* mean by 'fixity'. I am keen to distinguish the concept of a fixed event from what I take to be other distinct—though possibly related—concepts; namely, those of a causally determined event and a fated event.

With respect to causal determinism, there does not seem to be any necessary connection between a future that is actual (or temporally necessary), and one that is causally determined. Nor does it necessarily follow from the future's being potential (or temporally possible) that it is *not* causally determined. In making these claims at this stage, of course, I am relying upon the vagueness of my initial characterization of fixity. Determinism is the doctrine that a complete description of the state of the world at any time, could, in principle, be derived from i) a complete description of the state of the world at any earlier time, *and* ii) a specification of the laws of nature. Clearly this is *not* a vague doctrine, and so it should come as no surprise that—absent some substantive argumentation—it cannot be immediately inferred from the fixity of

[4] For a description of 'A-Theory' and 'B-Theory', see Section I.D., below.
[5] I do not wish to imply that the modal characterization is necessarily a 'B-Theoretic' one, nor that my preferred characterization is necessarily an 'A-Theoretic' one. Mellor, at least, is a B-Theorist who endorses the modal characterization of the asymmetry (see Ch. 1, Section I). But many other B-Theorists are loath to acknowledge any 'common sense' asymmetry whatsoever. Similarly, there are many A-Theorists who actually prefer the modal characterization—I just happen not to be one of them.

the future (as I have thus far characterized it), nor that its denial cannot be immediately inferred from the non-fixity of the future (as I have thus far characterized it).[6] Perhaps if determinism is incompatible with free will, then there might be a stronger connection between a fixed event and a causally determined one, but I will not be investigating that possibility in this thesis. Nevertheless, I stand by the claim that the fixity and the non-fixity of the future are distinct from the doctrines of causal determinism and indeterminism (respectively), and will be treating them as such from the outset. As a matter of fact, I will not be saying much at all about causal determinism, except to reiterate and bolster the claim that the concept of a causally determined event is distinct from the concept of a fixed event. The bolstering, in particular, will come in Chapter 2, where I will derive a fuller specification of the asymmetry of fixity, thus resolving the vagueness of my initial characterization.

With respect to fatalism, the distinction between it and the fixity of the future seems not to be so crisp and clear as it is in the determinism case. Although there are several different varieties of fatalism, I take it that the claim they share in common is the denial of human freedom. The reason that fatalism and a fixed future are often identified with one another, is that there tends to be a very strong common sense intuition that a denial of the potentiality (or temporal possibility) of the future *implies* a denial of human freedom. But even if this intuition is correct, the doctrines of fatalism and the fixity of the future *are* distinct. Fatalism is, by definition, an agent centered doctrine. The guiding intuition I will be appealing to throughout this thesis, however, is not, *as such*, an intuition about human agency, it is an intuition about the nature of events in time. If the intuition is correct, then events are not fixed before they occur; rather, they become fixed when (or after) they occur. It is an altogether

[6] Of course, if one characterizes a non-fixed future in terms of a contingent future, where 'contingent' is read as 'not necessitated by the state of the world plus the laws of nature', then, trivially, a non-fixed future implies indeterminism. But it is precisely this characterization that I wish to avoid.

different—though perhaps related—question, whether the fixity/non-fixity of *events* has any implications for the agency of *human beings*. I take it, for example, that if the future is fixed, then it would be fixed regardless of whether or not human beings existed. Perhaps this claim is not in keeping with the common sense origin of the guiding intuition, given that common sense rarely considers what the world would be like without human beings. Still, the claim is, I think, a ramification of the intuition I am trying to elucidate. It, however, is *not* to claim that the following counterfactual might not be true of a world in which the future is fixed and there are no human beings (or any other agents): if there had existed agents, then fatalism would have obtained. But the truth of this counterfactual will depend upon different specifications of 'fixity' and 'fatalism'.[7] Again, I am not denying that the doctrines of the fixity/non-fixity of the future, determinism/indeterminism, and fatalism/free will might be related, but am simply claiming that they are all distinct doctrines.

B. 'Fatalism'

Thus far I have offered a rough, and somewhat vague, characterization of what I think fixity is, and have distinguished it from what I think it is not: a fixed event is neither equivalent to a causally determined event nor to a fated one. And, as I said, I will not be dealing much more with causal determinism and any relationship it might have with a fixed future—it is not the focus of my thesis. But the relationship between a fixed future and fatalism strikes me as being a more intimate one, and it does play a central role in my thesis. In order to motivate this role, I first need to say more about fatalism and what I take to be its different forms. The description and taxonomy that follow are my own, and represent only one way of delineating the different forms. This way will no doubt prove objectionable to some; but providing it at this stage will clarify my usage of terms, and help guide the reader through my subsequent

[7] See Section I.C., below.

arguments. It is my hope that the some of the more controversial aspects of the taxonomy will be less so by the conclusion of the thesis.

So, how should we understand an assertion of fatalism? One helpful way to understand it is by analogy with the past. Most of us accept fatalism about the past—'there is no point in crying over spilt milk'. We don't think there is any point in deliberating about what we did yesterday, at least not with respect to forming intentions for acting. But we do deliberate about the future, because we often think that we have some power (albeit limited) over the way the future goes—a power that we take ourselves to lack with respect to the past. So, if fatalism obtains, then just as human beings lack power over the past, they also lack power over the future.

But how should this lack of power be spelled out, and what is its source? Answers to these two questions will yield two different ways, respectively, of categorizing fatalism (see Figure Intro.1, below). Answers to the latter question (call it the 'source' question) provide us with at least three broad categories of fatalism: logical, ontological, and theological.[8] Logical fatalism, probably the most commonly discussed of the three, claims that the source of our lack of power over the future is the *logic* of future directed *propositions*. The timeless application of the laws of logic to all propositions demands that even future directed propositions admit of determinate truth values, and, given that we do not have the power to *change* the truth values of propositions, we do not have power over the future. We can further divide this category of fatalism if we offer more specific answers to the source question. We can either claim that it is the *present* truth of future directed propositions that yields logical fatalism, or that it is the temporal necessity of *past* truth about the future that is the source. Call the former the argument from antecedent truth value, and the latter

[8] By 'source', here, I simply mean the idea or principle from which fatalism has seemed to follow.

the argument from temporal necessity. We will look at these arguments in much greater detail in Chapters 3 and 4.

The second category of fatalism is what I refer to as 'ontological' fatalism. The answer this category provides to the source question is that it is the *ontology* of future *events* that nullifies human freedom; perhaps because such events are causally determined (assuming incompatibilism), or perhaps because they exist eternally. The thought here is that ontological fatalism is meant to follow *directly* from the nature of future events, and that this implication is independent of any implications arising from the status of propositions about those events. Thus, when we consider in Chapter 1 whether an eternally existing future implies fatalism, it will be the ontological category that we are dealing with. I am aware, of course, that the bifurcation between propositions and events that supports the distinction between logical and ontological fatalism will seem unnatural to some, but if the reader will indulge me for the time being, I will attempt to motivate such a bifurcation in Chapter 3.

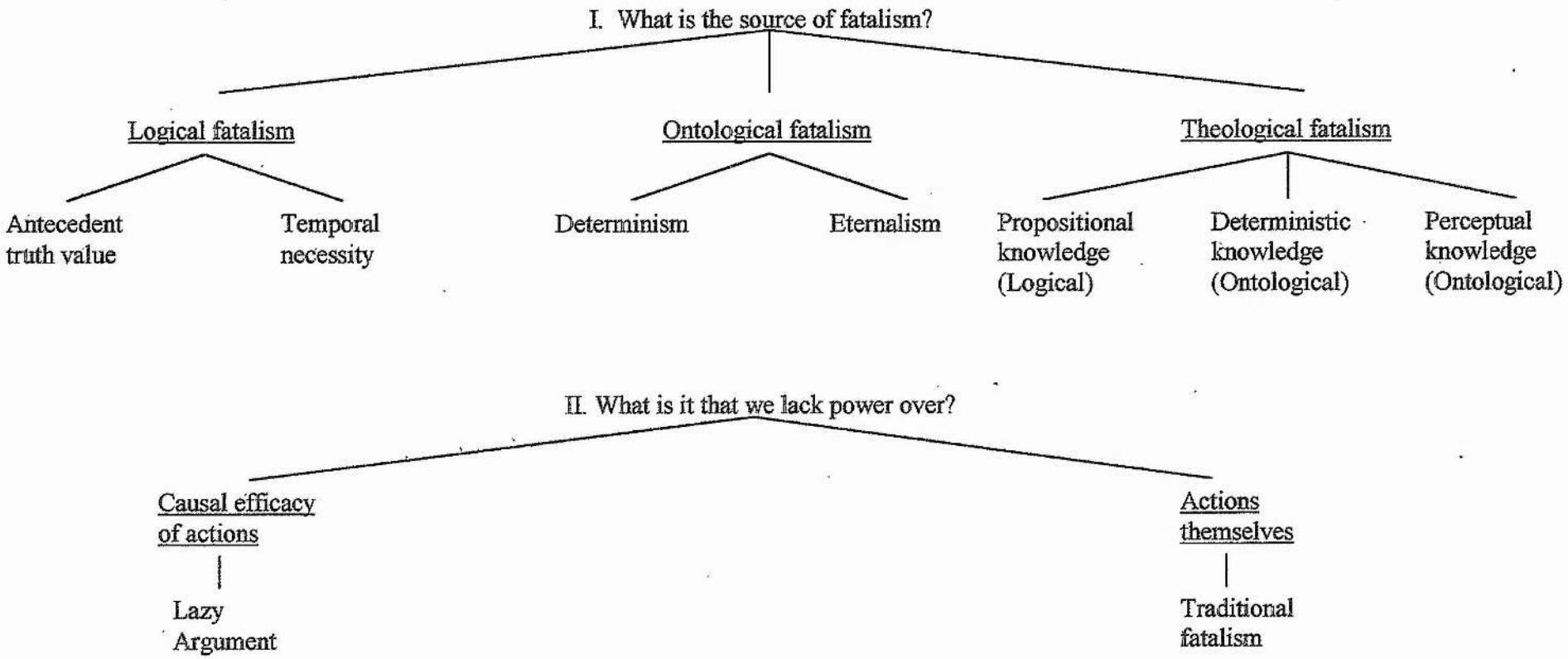
As for theological fatalism, it answers the source question by claiming that it is an omniscient God's *knowledge* of the future that nullifies human freedom. It is interesting to note that this is a unique category of fatalism, in that it can come in the form of either of the other two categories. That is, one can claim that God's omniscient knowledge of the future is propositional (as in logical fatalism), or one might claim that God's knowledge of the future is perceptual, or perhaps causally deterministic. In the perceptual case, we would think of God actually seeing future events; whereas, in the deterministic case, we might think of him as knowing the causally determined future based on his own divine intentions. In either of these latter cases, the supposed fatalistic implications can be thought of as taking the form of an ontological fatalism. For these reasons, it might seem more appropriate to delete the category of theological fatalism, and simply add it as an additional subdivision of the

other two categories. Nevertheless, inasmuch as the viability of theological fatalism depends upon the existence of an omniscient God, it is a special case and (I think) deserving of its own category, even if the distinction with the other two categories is not hard and fast.[9]

The other question we asked, above, was how the lack of power over the future was to be spelled out. Essentially, this question is asking for the *object* of our lack of power—what is it that we lack power over when fatalism obtains (call this the 'object' question)? There are at least two different ways of answering the object question, and these answers will yield a different means of categorizing fatalism than that provided by the source question. The first answer is that we lack the power to *cause* future events—our actions are causally inefficacious. For example, though I am free to choose to take shelter during an air raid, if I am fated to be killed, then my taking shelter will not cause me to survive. Thus, there is no point in even deliberating about what actions to choose. This type of reasoning is often called the Lazy Argument. The other answer—what I will call the traditional answer—to the object question is that I lack power over my actions themselves. For example, if I, as a hypothetical Naval Commander, give the order for a naval battle, the battle will occur. But if the battle was fated to occur, then I was unable to exercise autonomy in giving the order. So, my actions are causally efficacious, but they are not freely willed. We will look at examples of both of these types of arguments in Chapter 4.

[9] I should note that many of the distinctions, and their placements, in the taxonomy are not hard and fast. The taxonomy is not meant to be definitive, but is meant to give the reader a sense of the range of options, and to pave the way for my discussion of some of those options.

Fig. Intro.1. FATALISM—A TAXONOMY



C. The Relationship between Fixity and Fatalism

Given this taxonomy of fatalism, then, and given that I take the fixity of the future to be distinct from fatalism, in what way do I take the two doctrines to be related? One fairly obvious answer is that, *given* the existence of agents, a fixed future implies fatalism, but is not a consequence of it. The reason a fixed future would not be a consequence of fatalism is that the domain of events associated with the latter is much more restricted than in the case of a fixed future: fatalism is only a doctrine about events involving agents. So, according to this answer, if all future events are fixed, then human beings lack freedom; but if fatalism obtains, then from this we can only infer that future events *involving human beings* are fixed, not that all future events are fixed.

Unfortunately, however, this characterization of the relationship between a fixed future and a fated one is an oversimplification. In the first place, it does not take into account the range of possibilities with respect to different categories of fatalism. For example, if the type of fatalism that is meant to follow from the Lazy Argument obtains, then even some human involving events would not be fixed, since the argument assumes that we can make our own choices. More importantly, though, the above characterization of the relationship also fails to take into account different specifications of fixity. In Part I of this thesis, I will be attempting to arrive at a determination of what metaphysically *grounds* the asymmetry of fixity; and different grounds for the asymmetry are not only going to result in different specifications of it, but also in different ways in which fixity might be related to the different categories of fatalism. And, of these different ways, it might be that some prove more plausible relationships than others.

Take, for example, the causal deterministic variety of fatalism: if we discover in the ensuing investigation that fixity is grounded in ontology (according to which a

fixed event is one that exists)[10], then the fixity of the future would not only fail to be a consequence of this variety of fatalism, but it would also not imply it. This is because we can conceive of a future that, though (causally) deterministically related to the present/past, does not exist; just as we can conceive of an existent future that is nonetheless (causally) *in*deterministically related to the present/past (surely it is not a necessary condition for an existent future that it be related to the present and past in the way specified by causal determinism). On the other hand, if we conclude that fixity is a causal notion, according to which the direction of causation *determines* the asymmetry of fixity, then it would appear that fixity and the causal deterministic variety of fatalism not only lack a conditional relationship, but that they are actually contradictory. On such a view, the potentiality (or temporal possibility) of the future would be assured by the same causal laws that are supposed to yield causal determinism (and thus, *ex hypothesi*, fatalism).

If, however, we are considering the variety of fatalism that is meant to follow from a temporal eternalism (whereby all events exist eternally), *and* fixity is grounded in ontology, then it is plausible that that the fixity of the future both implies, *and* is a consequence of, (this variety of) fatalism. In such a case, an existent future would be the source (ground) both for the fixity of the future, and for ontological fatalism.

What about logical fatalism? Here, regardless of which variety of logical fatalism we are considering, the specification of the metaphysical ground of fixity seems not to be relevant, for precisely the same reason that logical fatalism is supposed to be a worry: because the laws of logic are thought to be independent of temporal considerations like the asymmetry of fixity. That is to say, the logical

[10] One might think, given my characterization of a fixed future as 'actual', that a fixed future follows *immediately* (i.e. absent any argument) from an existent future. This, however, would be to beg the question against the B-Theorist who believes the future is non-fixed; since such a theorist takes this position to be compatible with her belief that all events exist eternally and are actual *simpliciter*. This is my reason for allowing the modal characterization of fixity for the time being.

fatalist infers that the future is just as inexorable as the past, given that truth about the future is just as determinate as truth about the past. So, logical fatalism tells us that humans lack freedom *because* of the laws of logic and *independently* of whatever grounds fixity. Thus, regardless of whether we take fixity to be grounded in ontology or causation, and regardless of whether such grounds, by themselves, support an asymmetry of fixity; if the logical fatalist's argument goes through, and the laws of logic do nullify human freedom, then it is likely that they also determine that *all* future events are fixed. Here too, then, we would also be confronted with the possibility that the fixity of the future and fatalism imply one another.

Of course, it is yet to be established that fatalism follows intelligibly from *any* of these purported sources. The taxonomy merely presents them as options. We will see to what extent they are *viable* options (with the exception of causal determinism) as we proceed. What I want to establish at this point is simply that, in some cases, it is plausible that there is an intimate relationship between a fixed future and fatalism, even though the two doctrines are distinct. Therefore, when confronted with these cases, I will speak of a fixed future both in terms of itself, as well as in terms of any fatalistic implications it might have, implicitly acknowledging both the distinction, as well as the relationship, between the two concepts.

D. 'A-Theory' and 'B-Theory'

We now move to a discussion of the terminology associated with different conceptions of time. Throughout Part I of the thesis, I will frequently make reference to the 'A-Theory', and its rival, the 'B-Theory'. Very basically, the A-Theory of time takes what McTaggart (1908) famously referred to as the class of A-*determinations* as the most fundamental aspect of time (or at least as an essential aspect of it, depending on the version). These A-determinations are simply those of past, present, and future. Given that what is past, present, and future is constantly changing, the A-Theory

emphasizes the *dynamic* nature of time. The B-Theory takes McTaggart's B-*relations* as the most fundamental aspect of time. These are the relations of earlier than, later than, and simultaneous with. Since these temporal relations are static, the B-Theory emphasizes the *eternal* nature of time. Now, there are many different versions of both the A-Theory and the B-Theory of time. In their 'purest' forms, they both reduce the opposing class of determinations (or relations) to their own class. But even among these 'purists', in both camps one can find quite an array of disparate tenets. For this reason, one might think that the terms are misleading and no longer of any great use. Nevertheless, I will retain the use of them, but will specify in different contexts what I intend them to refer to.

For my initial purposes, I will stipulate that the A-Theory of time is embodied in two key tenets: i) the affirmation of the dynamic nature of time, according to which temporal becoming is an objective feature of reality, and ii) the denial of the existence of the future. There are, of course, many A-Theorists—known as presentists—who also deny the existence of the past. But we will not be considering their doctrine until Chapter 2, so the more generic version of the A-Theory that I have stipulated will serve to get us started. The B-Theory, then, stands in opposition to i) and ii), and claims that time is static and ontologically symmetrical (past, present, and future are all equally real). So, initially at least, I wish to maintain no distinction between the A-Theorist who is a presentist and the one who also admits the past into her ontology. Similarly, I wish to maintain no distinction between these A-Theorists and someone such as Tooley, who endorses i) and ii), above, but denies other common tenets of the A-Theory, such as that all tenseless concepts can be analyzed in terms of tensed ones. For my purposes, Tooley is as much an A-Theorist as any other. Again, I should note that the discussion in Chapter 2 will require further refinement of my generic characterization of the A-Theory, given that that discussion comes in the context of a

debate *among* A-Theorists. But the initial debate in Chapter 1 will be *between* the A- and B-Theorist, and thus the generic characterization will serve us well there, since it is sufficiently narrow to distinguish it from any form of the B-Theory.

Not only is it a consequence of carving up the distinction between the A- and B-Theory in the way I have done, that certain hybrid A-B Theorists (such as Tooley) are included in the A-Theory camp, but also that other hybrid theorists are excluded from either camp. Here I am thinking of McTaggart himself, as well as McCall. Both of these philosophers affirm the dynamic nature of time, but they do not cash it out in terms of the coming into existence of present events. In McTaggart's case, becoming consists in future events becoming present and then past.[11] Of course, McTaggart thought that time was unreal, but he deduced this conclusion from a conception of time according to which both the A-determinations and B-relations are essential aspects of time. For him, even though the dynamic nature of time is more fundamental, its static nature is also essential. So his picture is one of a B-series of events strung out in time, all equally real, and only being differentiated by their ever changing instantiation of the properties of pastness, presentness, and futurity (and degrees thereof).

There are two reasons why I have chosen to exclude this conception of time from the discussion. First, regardless of what sort of consequences it has with respect to the asymmetry of fixity, there are a great many commentators who agree with McTaggart that it leads to paradox (they, however, choose either to reject or to modify the conception, rather than rejecting the reality of time).[12] Here I will refrain from passing judgment on whether or not this is right, since I fear that the controversy

[11] Here, and throughout the thesis when I make reference to 'McTaggart's conception', I intend the conception of time *from which* McTaggart deduced its unreality.

[12] Although McTaggart's Paradox will not be the focus of this thesis, I do discuss it briefly in Chapter 2, Section I, and in the Epilogue. Philosophers who accept, to varying degrees, that paradox follows from McTaggart's conception of time include Craig (1998, 2001b), Dummett (1980), Le Poidevin

regarding the coherence of McTaggart's conception would cloud the issue as to its implications for the asymmetry of fixity. Second, in the present context, McTaggart's conception does not provide a stark enough contrast to the B-Theorist's position, since they both agree that past, present, and future events are all equally existent; and it is precisely the question whether such an ontology allows for the asymmetry of fixity, that I will be discussing when I look at the *B*-Theory in Chapter 1.

As for McCall, he cashes out the dynamic nature of time in terms of the annihilation of all future possibilities other than the one made actual in the present. This model is also motivated by A-Theoretic intuitions about temporal asymmetry and temporal becoming, but it satisfies those intuitions at the cost of an extreme realism about future possibilities. For this reason, it, too, resists a neat juxtaposition with the way I have distinguished the A- and B-Theoretic ontology (i.e. between a non-existent and existent future). Furthermore, it would seem to violate the common sense which presumably gives rise to the A-Theoretic intuitions in the first place. Common sense not only tells us that time is dynamic, and that the present and past are actual in a way that the future is not; it also tells us that the reality of future possibilities is merely an *abstract* reality, not a reality that is every bit as concrete as present actualities. Of course, McCall designed his model not only to allow for temporal asymmetry and becoming, but also to allow for the solutions to a number of other, wide ranging philosophical problems. Nevertheless, given the limited scope of this thesis, and for the other reasons stated, I will also exclude McCall's model from the discussion.

II. Organization of the Thesis

With those terminological preliminaries out of the way, let us take a look at the organisation and direction of the thesis. In Part I, I investigate the relations between

(1991: 24-35), and Mellor (1998: 70-81); and those who deny it include Broad (1938: 309-17), Lowe

the dynamic and static theories of time, on the one hand, and the intuition about the asymmetry of fixity, on the other. I argue that the so called 'pure' forms of these theories, inasmuch as they both posit an ontological temporal symmetry, cannot do justice to the guiding intuition. The 'pure' B-Theory, with its denial of objective temporal becoming, cannot allow for a robust sense in which the future is non-fixed. The 'pure' A-Theory, according to which only the present exists, acknowledges the robustness of the asymmetry, but cannot provide a ground for it. I conclude Part I of my thesis with the claim that only a conception of time according to which the past exists and the future does not, can account for the intuition. In Part II, I discuss those fatalistic arguments which rely upon the determinateness of future truth as their key premise, and argue that these fail either because they rely on an illegitimate modal concept, or because they rely on a key undefended assumption. Finally, in the Epilogue, I identify some questions that remain to be answered, and outline an approach to answering them. In particular, I provide a more detailed sketch of the account of time posited at the end of Part I, and suggest that it can also provide a more thoroughgoing rejection of the logical fatalistic argument. That is the general structure of the thesis. In what remains of the Introduction, I will provide a summary of each chapter.

In Chapter 1, I investigate the relation between an existent future and a fixed one, and whether the former implies the latter. The A-Theorist claims it does, while most B-Theorists claim it does not. After considering arguments on both sides of the debate, I conclude that it will only ever end in an impasse. I then diagnose this impasse as resulting from different conceptions of what a fixed future consists in, and claim that these two opposed conceptions are based on the assertion (on the A-Theorist's part) and denial (on the B-Theorist's part) of objective temporal becoming.

(1998: 91, 2002: 318-9), Prior (1967: 4-7), and Sider (2001: 35n.19).

I conclude that the robust asymmetry of fixity endorsed by the A-Theorist is not even intelligible if there is no objective temporal becoming.

In Chapter 2, I investigate whether the presentist A-Theorist, given her doctrine of ontological symmetry[13], is able to account for the asymmetry of fixity. Given that presentism is, to a large extent, motivated by common sense, and given that the asymmetry of fixity is so fundamentally a part of that common sense, this challenge is an especially important one for the presentist to meet. The investigation involves considering different asymmetries, other than that of ontology, that might be said *fundamentally* to constitute temporal asymmetry. I argue that the presentist cannot avail herself of these, and that therefore her doctrines of ontological symmetry and asymmetry of fixity are inconsistent. I go on to suggest that only an ontological asymmetry, according to which the past exists and the future does not, can ground the asymmetry of fixity; and, further, that the former asymmetry is, in turn, grounded in objective temporal becoming. In offering, however, an A-Theoretic account of time that affirms the existence of the past, I find that I must be cautious in navigating between the two extremes of presentism and eternalism. This caution leads to the rather surprising conclusion that the *only* events that exist are past events. This is not to claim (as the presentist does about the past) that the present is unreal. Rather, the present does not designate a temporal region at all, it is the ever shifting boundary between what is real (the past) and what is unreal (the future). On this 'pastist' account of time, past events come into existence when they are fully actualized, and then exist tenselessly. This tenseless existence is manifested in the existence of their logical traces at all times subsequent to their actualization. What are these logical

[13] On my use of the terms 'ontological symmetry' and 'ontological asymmetry': unless otherwise stated, I will use these terms to refer to an a/symmetry of *existence*. I recognize that one might also postulate an ontological asymmetry of *properties* (such as in McTaggart's conception and McCall's model), but it is the more robust rendering that I intend.

traces? They are the 'thisnesses' of the events in question, where a thisness of x is the property of being x, or the property of being identical to x.

In Chapter 3, I introduce the two most common logical fatalistic argument types: the argument from antecedent truth value, which most contemporary philosophers claim is guilty of an obvious modal fallacy; and the argument from temporal necessity, which is widely regarded as the most worrying argument for fatalism. I then provide an analysis of the concept of temporal necessity which calls into question its modal legitimacy, thus rendering the argument from temporal necessity ineffective. In Part I I will have been pushing for the idea that the concept of fixity is fundamentally an ontological concept, not a modal one. Considerations derived from my analysis of temporal necessity bolster this idea, and point to the argument from antecedent truth value as actually being the more worrisome.

Having just defended the argument from antecedent truth value from the modal fallacy charge, in Chapter 4 I analyze a couple of different manifestations of the argument, and claim that they rest on an undefended assumption. The assumption is that events are fixed by the truth values of their corresponding propositions. I question this assumption, and claim that the fatalistic conclusion cannot go through without an argument in defense of the assumption. I also claim, however, that the anti-fatalist who embraces determinate truth about the future could provide a more thoroughgoing rejection of the argument by saying i) *why* the truth values of propositions do not fix their corresponding events, and ii) *how* events do get fixed.

In the Epilogue, I provide a more detailed sketch of the pastist account of time suggested at the end of Chapter 2. The account involves endorsing a hybrid theory, according to which both static and dynamic aspects are constitutive of the concept of time, neither being reducible to the other. I will suggest a way that this hybrid theory can provide answers to questions i) and ii), raised at the end of Chapter 4, and then

state how it is different from Tooley's hybrid theory . If the suggestion is a promising one, then my account will not only have justified the intuition about a robust asymmetry of fixity, but it will also have provided for the compatibility of that intuition with another highly intuitive idea, namely, that the laws of classical logic[14] apply timelessly and universally to all propositions.

[14] Here, I am collectively referring to the law of identity, law of non-contradiction, and law of excluded middle (where the latter is interpreted as implying the principle of bivalence)

PART I

TIME, FIXITY, AND ONTOLOGY

CHAPTER 1

B-THEORY AND ONTOLOGICAL SYMMETRY

Introduction

One of the reasons that A-Theorists offer for rejecting the static B-Theory is that it cannot account for our experience of temporal becoming. They take this experience as evidence of a fundamental and objective feature of reality; and there has, of course, been a great deal of discussion and debate between A- and B-Theorists as to whether temporal experience really does provide such evidence. The abundance of discussion with respect to temporal becoming stands in contrast to another oft cited, though much less discussed, reason for rejecting the B-Theory, namely, its alleged implications for the asymmetry of fixity. The B-Theory, in all of its different forms, not only postulates that time is static (as opposed to dynamic), but also that time is *ontologically* symmetrical: there is no ontological distinction between past and future. The A-Theoretic worry regarding this doctrine is that if the future participates in the same degree of existence as the past (and present), then how can the future be non-fixed and merely potential (or, if you prefer, temporally possible[1])? Or, more concretely, if the event of the Third World War exists eternally, then in what sense is that event—prior to its occurrence—*not* inexorable?

The A-Theorist's intuition is that there is no sense in which it is not inexorable; and so, in order to preserve the potentiality of the future, many philosophers of time have rejected the B-Theoretic doctrine of an existent future. Although this is a motivating factor for such philosophers, not much is said in the way of explaining or defending their belief that an existent future implies a fixed one. As for the B-Theorist's part, she will simply claim that an existent future, though actual, is not necessary, and that therefore there is no worry about the future being fixed. The

[1] See the Introduction to the thesis, Section I.A.

eternal existence of the Third World War simply implies that there *will* be a Third World War, not that there *necessarily* will be. Is this response all that is required to allay the concerns of the A-Theorist? Obviously the A-Theorist does not think so; but what should she say in her defense? In this chapter, I will be considering arguments on both sides of the debate, in an attempt to get clear about the relationship between an existent future and a fixed one, and to determine whether the former does, indeed, imply the latter. One point of interest that will emerge from the debate is that this question, though often not discussed in any great detail, is closely related to, and hinges upon, the much more widely debated question of temporal becoming.

Before beginning in earnest, I need to make two points about the discussion in this chapter. First, as I mentioned in the Introduction to the thesis, throughout this investigation I will not be concerned with the issue of causal determinism. This point is worth reiterating in the present context, since some might take the debate in this chapter to be about the *deterministic* implications of an existent future. But as Tooley (1997: 20-7) has pointed out, causal indeterminism is neither a necessary nor a sufficient condition for the non-existence of the future. A non-existent future may nonetheless be a causally determined one (Tooley's own view), and an existent future need not necessarily be causally determined. These claims seem much less controversial to me than claims about the relationship between *fixity* and existence of the future, and I am therefore interested in the latter. Second, though the general question at hand is whether an existent future implies a fixed one, the discussion will sometimes take the form of whether an existent future implies fatalism. As I argued in the Introduction, if an existent future does imply a fixed one, then it also implies ontological fatalism; similarly, if ontological fatalism obtains, then the future is fixed

in virtue of its existence.[2] So, even though I generally take the fixity of the future and fatalism to be distinct, given their specific forms in the context of this chapter, they are intimately related and I will treat them as such.

Though there is not a great deal of discussion in the literature either defending or attacking the belief that an existent future is fixed, in spite of the fact that the belief is a key motivational factor for the A-Theorist (just as its denial is a pre-requisite for any B-Theorist who wishes to affirm the temporal possibility of the future); some of what little extant discussion there is I will cover in Section I. From this discussion my position alongside the A-Theorist will emerge, and in Section II I will offer some additional arguments for that position. I will also, however, be considering how the B-Theorist might object to these arguments, and will eventually conclude that the debate must end in an impasse. Finally, I will diagnose this impasse by making some concluding remarks about the asymmetry of fixity and its relation to temporal becoming—remarks that suggest that the former concept is unintelligible on a B-Theoretic conception of time.

I. Some Representative Arguments

In this section, I will begin with a discussion of the B-Theoretic arguments against the idea that an existent future is a fixed one, making reference to the works of Smart (1981) and Mellor (1998). I will then discuss Tooley's (1997) arguments *against* an existent future, one of which is based on the common sense idea that at least some future events are preventable.

A. Smart

Most of Smart's arguments against the unreality of the future focus on issues arising from special relativity and reference to future individuals. According to Smart, special relativity has shown us that one man's future could, theoretically, be another

[2] I also held out the option that causal determinism might be the source of ontological fatalism. Here,

man's past; and so if we believe existence to be an absolute, the idea of a non-existent future is incoherent.[3] Furthermore, arguments which claim that since we cannot refer to future individuals, they must not exist, are merely confusing ontology and epistemology. But, of course, here we are concerned neither with the scientific, nor with the epistemological, ramifications of an existent future; rather, we are concerned with the *modal* ramifications (according to the characterization of fixity I am offering the B-Theorist). And Smart does briefly consider this aspect of the question, though he only devotes a single paragraph to it. Nevertheless, it will be of benefit to briefly mention what he has to say.

He considers whether the opponent of an existent future might not be motivated by considerations of free choice and the ability to alter the future. But, as Smart rightly points out, if one tries to alter the future by doing *A* rather than doing *B*, then *A* just *is* the future—nothing whatsoever has been altered. So we should not speak of altering the future any more than we would speak of altering the past. But then Smart says that 'There are no alternative futures just as there are no alternative pasts' (1981: 149). Notice the shift here from what is alterable to what has alternatives. Surely there is room to deny the former while affirming the latter with respect to the future? That is to say, whatever way things go, certainly they will go that way, but presently there is still a number of *alternative* ways things *might* go. Nor is this to confuse ontology and epistemology, as Smart claims. One's belief in the temporal possibility of the future need have nothing to do with one's lack of certainty about the future. Of course, it seems straight forward that a non-existent

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given the context, I am discounting that option.

[3] For the record, I share Markosian's ambivalence about special relativity and its purported ramifications for the A-Theory (2004: 73-5). For one possible way of reconciling special relativity with the A-Theory, see Chapter 2, Section II.B. For another, see Tooley (1997: 335-71). Of course, my ambivalence about special relativity is probably just as perplexing to a B-Theorist like Smart, as his ambivalence about common sense is to me. As Smart remarks elsewhere, 'it may be the case that a "Heraclitean" will find things quite intelligible which are quite obscure to a "Parmenidean" like me' (1980: 82-3).

future is not knowable[4]; but if Smart does not see this epistemological point as providing evidence for the unreality of the future, then we need not cite it as such. Surely it is enough to cite the possibility of prevention, such that if the preventive factor had not been present, a different possible future would have occurred. Smart also says that even if there were alternative futures, this would point to a 'multiplicity of futures, not ... an unreal future' (*ibid.*). But the nihilist about the future believes that the existence of future possibilities is merely an abstract existence, and so is not forced to choose between the concrete existence of one actual future (Smart's view), and the concrete existence of a multiplicity of futures (as in McCall's model). In the same manner, the modal actualist can admit that there are possibilities without being forced to adopt modal realism.

Given Smart's obstinate denial that there are alternative futures, perhaps he is not the sort of B-Theorist that we should look to in our investigation. We are trying to discover whether the common sense idea that the future is non-fixed, not inexorable, and replete with (abstract) possibilities is sustainable on a view of time according to which the actual future exists. One almost senses that Smart does not share this common sense idea, or at least that he is indifferent regarding it. So let's move on to Mellor, a B-Theorist who does seem to take the asymmetry of fixity seriously, and who, nevertheless, sees no conflict between this asymmetry and the B-Theory of time.

B. Mellor

Mellor acknowledges that while at any present moment there are 'many possible futures, there is only one possible past, the actual one' (Mellor 1998: 20). Of course, he does not actually believe that there is such a thing as the present, since the present moment is an A-moment, and he thinks only B-moments exist. So at any *B*-moment, say, 5 PM on January 16, 2004, it is true that there are many possible futures (relative

[4] I should note that I take this claim to be distinct from the claim that propositions about a non-existent

to that B-moment), but only one past (relative to that B-moment). In the same breath, however, Mellor wishes to maintain that at that B-moment there is only one *actual* future, 'containing all and only the B-facts that will eventually be first present and then past' (*ibid.*). So 'B-possibilities' vary over time, even though B-facts do not. Are these claims consistent?[5] Mellor thinks so. This is because, for him, the future's being non-fixed and the past's being fixed[6] are not constituted by an asymmetry of ontology, rather they are constituted by the unidirectionality of causation (*ibid.*: 35). The latter is what determines both the direction of time and the modal asymmetry between past and future events. Mellor is quick to point out that this asymmetry does not depend upon, or hold between, events that actually instantiate pastness and futurity; rather, it simply depends upon whether, at any B-moment t, events are earlier or later than t (*ibid.*). If they are earlier, then at t they are fixed, if later, then at t they are non-fixed.

Setting aside, for the moment, the claim that the asymmetry of fixity is constituted by the unidirectionality of causation, what should we make of Mellor's other claims? He believes it is consistent to claim that at t all events later than t are actual and existent, even though there also exist at t possible alternatives to those actual future events. But if there is only one series of actual events, and these exist eternally and tenselessly, then in what sense can there be other possibilities as of *any* time t? Consider two events, E_1 and E_2, which occur at t_1 and t_2, respectively. Regardless of where (when?) one's current temporal experience is located on the timeline, E_1 and E_2 eternally exist and occur at t_1 and t_2. Suppose that t_3 is present,

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future cannot be truth apt. The latter claim is one that I should like to deny. See the Epilogue.

[5] One should not think that, if there is any inconsistency, it must lie in his use of A-terms when he doesn't believe that A-properties exist. He still thinks that A-terminology is useful and, indeed, required, even though it does not refer to anything real. So when he uses these terms, one should understand that upon demand he could offer a consistent (if not altogether satisfying) paraphrase using only B-terminology.

[6] Mellor does not actually refer to the asymmetry in terms of fixity, but in terms of the modal characterization (temporal necessity/possibility) that I have been offering the B-Theorist.

then clearly there is no sense in which E_2 could (at t_3) fail to occur at t_2. It already has occurred! But what if t_1 is present, how is it now the case that it is possible that E_2 not occur at t_2? Nothing has changed! Our location on the timeline does not change the ontology of events in time. That ontology, according to the B-Theorist, is perfectly symmetrical with respect to past and future (or with respect to earlier than/later than the present moment).

Perhaps Mellor would claim that I am confusing actuality with necessity. The future is actual, but this does not mean that it is necessary. This reply would force me to acknowledge that at t_1 it is, in *some* sense, possible that E_2 not occur at t_2. But it seems to me that the sense in which it is possible fails to do justice to our intuition that the future is non-fixed. It is only possible in the sense that there is some possible world in which the series of events in time is fixed differently. And all this means is that in the actual world, though the future is not fixed *necessarily*, it is fixed contingently.[7,8] The past is also thus contingently fixed, and yet this fact does not give us any comfort when we find ourselves regretting a past event. It is not as if someone could console us by saying, 'Just because the past is actual, doesn't mean it is necessary. Things *might* have gone differently.' The appropriate reply would be, 'But they didn't! And the occurrence of that event is now inexorable.' So, too, at t_1 E_2's occurrence at t_2 is inexorable, *even if* there is a possible world in which E_2 does not occur at t_2; since, in this world, E_2 is eternally at t_2.

Although I believe the foregoing considerations cast doubt on Mellor's ability to reconcile an actual and real future with a non-fixed one, they are by no means conclusive. In the next section I will expand on them as well as consider possible B-

[7] The contingency of the fixity I am refering to here should be read as broadly *logical*, not causal or deterministic, contingency.

[8] This is the reason that I eschew the modal characterization of the asymmetry, since, if I am right, it is possible that the future be fixed in a way that threatens fatalism without it being fixed—or fixed in just that way—in all possible worlds. See Chapter 3, Section IV and Conclusion.

Theoretic objections. In the mean time, this is a natural point at which to return to Mellor's claim that the asymmetry of fixity is grounded in the unidirectionality of causation; since it is on the basis of this claim that Mellor thinks an actual future is possible in a way that the actual past is not. The idea is that even though there is no ontological difference between past and future events, there is an asymmetry in the direction of causation (from earlier to later), and *this* asymmetry results in a fixed past and non-fixed future (*ibid.*). I will argue in Chapter 2 that the *presentist's* attempt to ground the asymmetry of fixity in the unidirectionality of causation cannot succeed. But the arguments I rely upon in that context assume an A-Theoretic account of causation—one according to which the direction of causation is grounded in the direction of time and objective temporal becoming. Clearly, however, arguments based on this account would not carry any weight against Mellor, since his account of causation is obviously *not* an A-Theoretic one. According to Mellor, causal order determines temporal order, not the other way around (*ibid.*: 106-8); so causation is the most fundamental aspect of time, not—for obvious reasons—temporal becoming. Nevertheless, in the present context, I am happy to allow Mellor's views regarding the nature of causation; for if I can shed doubt, even upon these grounds, on his ability to account for the asymmetry of fixity, then so much the worse for the grounds.

One reason for dissatisfaction with Mellor's attempt to base the asymmetry of fixity on the fact that causes temporally precede their effects, is that it is not clear that that fact isn't a mere manifestation of the asymmetry in question, as opposed to a determinant of it. For Mellor, at any B-moment t, all events earlier than t are fixed, and some events later than t are non-fixed; and this is because nothing at or later than t could be a cause of anything earlier than t, whereas many things at or earlier than t can be causes of things later than t (*ibid.*: 35). But this is simply an observation about the nature of causation, and in no way explains what makes the past fixed and future

non-fixed. There is, of course, a sense in which this objection is unfair, since it seems to demand of the B-Theorist something she cannot offer; namely, an explanation of how past events acquire the property of fixity. This is unfair because B-Theorists do not think past events have any special properties in virtue of which they are past—all events are ontologically on a par. In spite of the unfairness of this demand, however, it is a natural one to make if one endorses a robust asymmetry of fixity. And once this point is acknowledged, one begins to wonder whether A-Theorists and B-Theorists are really agreeing, rather than equivocating, when they both affirm the non-fixity of the future. We will return to this point later in the conclusion to the chapter.

Another reason for disputing Mellor's account, is that he has not shown that an event that can be causally effected might not also be a fixed one. Consider an example from fatalism. Suppose that I am able, at t_1, to cause E_2 to occur at t_2. The fact that I am able to do so, but am unable, at t_2, to cause E_1 not to have occurred at t_1, in no way implies that I was able, at t_1, to *avoid* causing E_2 to occur at t_2. In short, it is perfectly conceivable that events which we are able to causally effect might, nevertheless, be fixed; since the intention to cause such events might be every bit as fixed as the effects themselves. In connection with this point, recall from the Introduction to the thesis the distinction between the Lazy Argument for fatalism and the traditional version. Here, in making the point that the unidirectionality of causation does not rule out fatalism, I am appealing to the latter. That is, I am *not* appealing to the argument that says, for example, 'Since it is fated that you will either be killed or not be killed tomorrow, there is no point in taking precautions against being killed'; because this argument implies that our actions—though freely willed—are not efficacious. I am, rather, appealing to the argument that says, 'Though your actions affect the future, they (the actions) are fated and so are not performed with autonomy.' According to this version of fatalism, the effects of our future actions are

fated not because of a breakdown in the causal process, but because that process itself—beginning with our deliberations and volitions, and ending with our actions and their effects—is fated. Thus, as long as I can get the B-Theorist to acknowledge the *possibility* of this type of fatalism, *then* my point—that an event caused by an agent might nevertheless be a fixed one—follows. If these arguments have any merit, then the mere fact that causes precede their effects cannot constitute the asymmetry of fixity; in which case, the B-Theorist cannot appeal to this fact in trying to account for the temporal possibility of the future.

So my line of argument against Mellor and the B-Theorist is to claim that a real and actual future does threaten to undermine the asymmetry of fixity, and that the unidirectionality of causation does not entail otherwise. Again, however, I wish to stress that these considerations are merely suggestive, and that they will need to be reinforced in the next section. Before moving on to that section, we will first see what Tooley has to say in favor of a *non*-existent future.

C. Tooley

Tooley (*op.cit.*) does not tackle straight on the issue of whether an existent future entails a fixed one. Instead, he offers an argument which purports to show that if future events are preventable, then those events cannot exist until they are made actual in the present. So rather than arguing directly that an existent future entails a fixed one, he argues, in effect, for the contrapositive. That is, he argues that the non-fixity of the future (i.e. a preventable future) entails a *non*-existent future. Thus, although his discussion is indirect with respect to the question at hand, I will take it as equivalent. Interestingly, however, he eventually finds this 'argument from preventability' unsatisfactory, and goes on to replace it with an altogether different argument for the non-existence of the future. I, too, think the initial argument is unsatisfactory, but for different reasons than does Tooley. In the remainder of this

section, I will first present the argument, then briefly discuss Tooley's criticisms and the direction they lead him, before offering my own critique of the argument. His criticisms and the resultant new argument for the non-existence of the future involve in-depth analyses both of the possibility of backwards causation and of the nature of causation itself. In Chapter 2 I will provide a critique of the latter analysis. Here I will not be treating either analysis, but will simply sketch an outline of his discourse. As I hope to show, my criticisms of Tooley's argument from preventability will delete the requirement—in the current chapter—for a thoroughgoing treatment of these analyses anyway.

Tooley's argument from preventability starts from the assumption that the existence of a free and omnipotent person is logically possible; and then claims, given a world that contains three distinct times t_1, t_2, and t_3, and a state of affairs S existing at t_2, that such a person could, at time t_1, have ensured that S not exist at time t_2.[9] However, it is logically impossible for such a person, at time t_3, to ensure the non-existence of S at time t_2 (assuming the impossibility of backwards causation). Thus, since S's existence could still be prevented as of t_1, and since S's existence cannot be prevented (or rescinded) as of t_3, the past exists while the future does not.[10] Tooley lodges two complaints against this argument. First, he claims that the argument is fatally flawed, in that it must assume the impossibility of backwards causation. This assumption is unacceptable because, of the arguments that one might use against the possibility of backwards causation (Tooley surveys six), they all *either* assume a dynamic view of time[11], in which case the argument from preventability begs the

[9] 'Could have ensured that S not exist' is Tooley's own paraphrase of 'could have prevented S' (*ibid.*: 46).

[10] Perhaps Tooley's 'prevent' and my 'rescind' are not useful terms in this debate, since they seem to presuppose a dynamic conception of time. I assume, however, that the appropriate subjunctive conditionals could be reworded so as to retain the original meaning but without begging the question against the static conception of time. See Tooley's second objection to the argument, below.

[11] It is worth noting that Tooley's definition of a dynamic world is one in which different states of affairs exist at different times.

question against a static view of time; *or* they assume that the impossibility of causal loops entails the impossibility of backwards causation. That is to say, those arguments against backwards causation that are neutral with respect to the nature of time, in fact only establish the impossibility of causal loops. And Tooley goes on to argue that backward causation does *not* entail the possibility of causal loops; in which case, the assumption against backwards causation in the argument from preventability is not well supported. So, either way, the latter argument fails on the basis of the assumption against backwards causation.

His second objection to the argument is that the inference from *S*'s preventability as of t_1, to the conclusion that the world is a dynamic one, depends upon how 'preventability' is being explained. Tooley has explained it in terms of certain subjunctive conditionals, and his worry now is that the B-Theorist could provide an account of the truth conditions of subjunctive conditionals which allows her to agree that *S* is preventable as of t_1, but disagree that this implies that the world is a dynamic one. As Tooley puts it, this is because 'first, ... any standard account of the truth conditions of subjunctive conditionals will provide satisfactory truth conditions for the preventability conditionals in question, and, secondly, ... standard accounts are all formulated entirely in terms of states of affairs in a static world' (*ibid.*: 69).

What this latter objection suggests to Tooley, is that he should try to show that all standard accounts of the truth conditions of subjunctive conditionals are either inadequate or implicitly presuppose dynamic worlds. Of the standard accounts, he claims that Jackson's causal account is least susceptible to charges of inadequacy, and so he thinks the most promising move is to show that that account implicitly presupposes dynamic worlds. His strategy for doing this is to provide a lengthy analysis of causation, one which purports to show that that relation can only obtain in

dynamic worlds in which the present and past exist, but in which the future does not. Notice that this conclusion would also deal with the first objection to the argument from preventability, since it would now be legitimate to assume a dynamic world in arguing against the possibility of backwards causation (given that the account of causation being utilized in the argument is one which can only obtain in a dynamic world). But once he has done this, he sees himself as having provided a much more fundamental objection to the existence of the future than did the argument from preventability. Namely, he takes himself to have shown that causation is not possible in a static world. So, in rescuing the argument from preventability, he has made it superfluous.

That is the complex dialectic that eventually leads to Tooley's desired conclusion. For him, just as for Mellor, causation is ultimately the most fundamental aspect of time, determining all of its characteristics. But his account of causation is one that can only obtain in a dynamic world, and he goes to great pains to show that it is the only satisfactory account. As I said above, I will reserve a critique of Tooley's account of causation for Chapter 2, but I will simply remark in passing here that I disagree that causation is the most fundamental aspect of time; and, in particular, I think that any A-Theoretic account of causation must presuppose temporal becoming and the asymmetry of fixity. As a matter of fact, I will argue in Chapter 2 that the postulates upon which Tooley bases his account do just that. But even were we to grant that his account succeeds, what has become of the common ground that the A- and B-Theorists initially possessed in debating the existence of the future? The question we began with was, 'Does an existent future entail a fixed one?'. We assumed all parties to the debate agreed that the future is not fixed—and so endorsed the asymmetry of fixity—and then we set about trying to discover whether a B-Theoretic ontology could allow for that asymmetry. But now Tooley has taken us

from that common ground, along a complex path, to a controversial position that is miles away from the simple intuition with which we began—a position that we *must* endorse in order to deny the existence of the future. But surely if the future is, indeed, non-existent, then the simple intuition that the future is preventable is *not* a superfluous consideration in the debate, and can do the work without having to make way for controversy. Accordingly, let's take a look at the argument from preventability again, with a mind towards critiquing and salvaging it in a way that acknowledges shared ground with the B-Theorist, while at the same time keeps the motivating intuition of the A-Theorist closely in view.

Tooley's presentation of the argument from preventability went something like this (where A = Tooley's 'free and omnipotent person'):

> (1) At t_1, A could have ensured that S not exist at t_2. (Assumption)
>
> (2) Necessarily, causes precede their effects. (Assumption)
>
> (3) So, at t_3, A could not make it the case that S does not exist at t_2. (From (2))
>
> (4) Therefore, as of t_3, S exists (in the past), but as of t_1, S does not exist (in the future). (From (1) and (3))

His first objection to this argument was that the assumption of (2) amounts to an assumption of the conclusion, since (2) can only be demonstrated by assuming a dynamic conception of time. Although Tooley argues extensively for this latter claim, it is controversial and one that most B-Theorists are going to reject. So, since we are trying to allow for as much shared ground as possible between A- and B-Theorists, we should consider how the B-Theorist might object to Tooley's presentation of the argument from preventability, rather than relying on Tooley's own, controversial objection. In the first place, she would probably not target the assumption that an existent past is one that is fixed, since this is an assumption that she would likely

grant. Rather, she would focus on the assumption that a preventable state of affairs is one that cannot exist, as (1) seems to suggest. (1) is supposed to capture the non-fixity of the future, and therefore, it is supposed, should be agreed to by all those who endorse the common sense intuition. But surely the B-Theorist could—indeed, should—affirm the non-fixity of the future without embracing the characterization of it in (1). The extent to which an existent future is unpreventable is precisely the question at stake, not the much more widely accepted claim that the *past* is both existent and fixed.

So the B-Theorist is going to object that (1) assumes what the argument from preventability is supposed to demonstrate; that is, it assumes that a preventable event cannot exist, which, in turn, implies that an existent event cannot be prevented. Thus the problem with Tooley's presentation of the argument from preventability is that it assumes what the proponent of the A-Theory needs to demonstrate: that an existent future is fixed, unpreventable, temporally necessary, etc. Is there a way to salvage the argument that exposes, as opposed to presupposes, a direct link between existence and fixity? In the next section I will attempt to do just that.

II. Some New Arguments—and an Impasse

In the last section, I suggested that there are several considerations that favour the A-Theorist's belief that an existent future is a fixed one, but that these by no means conclusively demonstrate this. To recapitulate briefly, those considerations involved the following three claims: First, the A-Theorist can acknowledge that the future will be what it will be, and that we certainly cannot *alter* the future; while still maintaining that there are alternative possible futures that, nonetheless, do not exist concretely. Second, the only sense in which an actual future can also admit of alternative possible futures is a trivial one; since, if the future is actual but not necessary, then—though not necessarily fixed—it is still contingently fixed, and how is contingent fixity any

less counter-intuitive than necessary fixity? And, finally, the B-Theorist's appeal to the direction of causation cannot insulate an actual future from the claim that it is a fixed one, since it is not clear that a future effect is any less fixed than a past or present cause. So how can we reinforce these considerations with more conclusive arguments? We saw that we should not, as Tooley did, attempt arguments that beg the question against the B-Theorist, or that make the above considerations superfluous; therefore, in this section I will offer two arguments that purport to show in a non-circular way that the fixity of the future follows directly from its existence. I will also, however, consider forceful B-Theoretic objections to these arguments, and these will leave us in the rather unsatisfactory position of an impasse. I will conclude with some comments on the conceptual relation between fixity and temporal becoming—ones that will suggest a diagnosis of the impasse.

A. The Road Analogy

The first argument I will consider adapts an analogy suggested by Lewis (1986a: 202-3).[12] Lewis, in trying to explain the concept of a temporal part, says it is like a part of a long road cut crosswise. Although the road may pass through Village A and Village B, some of its crosswise parts are only in A, others only in B, and many others in neither. So, too, according to Lewis, with objects spread out in time. Some of my temporal parts are located at the year 1969, others are located at the year 2004, but no temporal part of mine is wholly present at more than one time. This is the account of persistence known as perdurance, according to which objects persist by having different temporal parts at different times.[13] Given the B-Theorist's emphasis on the static nature of time, one can see how she might be fond of such spatial analogies.

[12] Sider (2001: 2ff.) also makes use of the analogy.

[13] Lewis says that those people who fail to grasp the concept of a temporal part are like the villagers (in Village A, say) who claim that all of the road's parts are in their Village, 'for not one single lane of it is missing' (*ibid.*).

Let's adapt this road analogy in such a way that it offers a picture of the B-Theoretic timeline of static events and our subjective experience of 'moving' along it.

Suppose I am moving along the road from Village A to Village C, which runs via Village B, and my current location is Village B. This description of my spatial location does not imply that Village C, or indeed Village A, are any less real than Village B. On the total spatial picture, my location along the road has no bearing on the ontology of the places that lie along it. The fact that I am 'here' in Village B does not say anything about Village B. 'Here' is just an indexical that derives its meaning from the context of utterance. So, too, according to the B-Theorist, there is nothing objectively special about one's subjective temporal location. 'Now' is just an indexical, and does not pick out any special property instantiated by the time at which I utter it. World War Three (if actual *simpliciter*) is just as real as my writing of this thesis, as is World War Two. For the B-Theorist, a maximal description of existence includes all times along the one dimensional timeline, just as anyone would agree that it includes all places in three dimensional space.

But now consider the repercussions of the road analogy with respect to fixity, and specifically, with respect to fatalism. If the future is non-fixed, then we have at least a limited power over how things go for us in the future. According to the road analogy, however, the road is an analogue for the one dimensional timeline, so there is no getting off the road, and its track is already laid—its destination unavoidable. Given this analogy, if I am currently located at Village B, how can it make any sense to say that I am able to avoid Village C? Here we must resist the temptation to think the term 'Village C' is merely a variable for a future time, so that the claim that I am unable to avoid Village C is as innocent and trivial as the claim that I am unable to avoid a future time t_f, where t_f is earlier than, or simultaneous with, my death. If the analogy is to maintain its consistency, 'Village C' must be a specific event located on

the timeline ('the road') at a specific time (say, 'mile marker 30'). If the event corresponding to 'Village C' is, for example, my brushing my teeth, then there is no possibility of declining to brush my teeth at the time denoted by 'mile marker 30'.

The B-Theorist will no doubt reply in the same manner as we have already seen. She will say, 'Of course it is true that you will pass through Village C at mile marker 30. But what is false, and what must be true if a fixed future follows from an existent future, is that *necessarily*, you will pass through Village C at mile marker 30. The road does not *have to* pass through Village C, it is perfectly possible that it pass through Village D instead. But that possibility is not actual. The actual road does indeed pass through Village C. So what?' My reply to this line of reasoning is to agree that the road does not necessarily pass through Village C, but to disagree that such a necessity is, itself, a necessary condition for a fixed future. I can acknowledge that there are some possible worlds in which the road does not pass through Village C, and still think that in this world Village C is inexorable, and so fixed. And, as I have already said, the metaphysical contingency of the fixity does not make it any less counterintuitive; for past contingent events are also thus contingently fixed, given that there are possible worlds in which they never occurred. And, again, this contingency does not give us any sense that we have a power over the past, or that the past is somehow not inexorable.

Given a B-Theoretic ontology, the parameters of the road analogy are such that, i) it is impossible to get off the road, ii) it is impossible to stop moving along it, iii) the road is not under construction, but is complete and cannot be destroyed, rerouted, etc., and iv) it *passes through Village C at mile marker 30.* Thus the existence of the road in its entirety, and the existence of Village C at a determinate location on that road, ensure that I cannot avoid passing through Village C, regardless of whether I choose to or not. The possibility of my avoiding Village C at mile

marker 30 may exist in a world in which the road takes a different course, but there is nothing that I can choose to do that would make such a world accessible. So, too, given the tenseless existence of all events in history, the possibility that another history is the actual one is not one that I am capable of realizing, so the possibility of an alternate history containing an alternate future is not a possibility *for me*, as an agent who wills and acts in order to bring certain things about—any more than it is possible for me to bring about an alternate past.

Apart from objecting to my distinction between a necessary future and a fixed one, how else might the B-Theorist object to this argument? There are two further objections I would like to consider. The first is to my adaptation of Lewis' road analogy. Smart (1953, 1955) distinguishes between two different senses of the word 'space', and argues that in one sense of that word we must not spatialize time, whereas, in the other, it is perfectly appropriate. The first sense of the word 'space' is that of ordinary language, according to which 'space is something that endures through time, and in which "space" has something of the logic of "thing" or "substance"' (Smart 1955: 241). The logic Smart is referring to here is that which allows for change and endurance through time. The second sense of the word 'space' is 'that in which we use the word in geometry, where we talk of two-, three-, four- or n-dimensional space, or in which we refer to the space-time of the Minkowski world as "a space"' (*ibid.*). According to the logic of three dimensional geometry, for example, things do not change or endure through time—in fact, they are timeless. And though in the logic of four dimensional geometry—when interpreted as a geometry of Minkowski space-time—time enters into the picture, change and endurance do not. In the geometry of the four dimensional Minkowski representation, 'thing' has the logic of a perduring space-time worm consisting of a series of

instantaneous three dimensional cross-sections. According to such a logic, 'things' do not endure or change, they just *are*.[14]

Now, according to Smart, it is perfectly acceptable to spatialize time in the latter sense of 'space', since this is precisely what we do in representing space and time as a Minkowski 'space'. Such a representation is free of any implications of, or commitments to, notions of change, endurance, passage, etc. But, Smart cautions, when we spatialize time in the ordinary language sense of 'space', then we do commit ourselves to an erroneous conception of time according to which it endures. That is, we 'think of time as an extended something along which we can move. For this to be so it would have to endure through a hyper-time' (*ibid.*). Clearly, then, Smart would object to my use of Lewis' road analogy; since Lewis was spatializing time in the four dimensional sense of 'space' (whereby the road depicts a perduring object with temporal parts), whereas I was spatializing time in the ordinary language sense of 'space' (whereby the analogy depicts time itself and our 'moving' along it). In fact, Smart even claims that it is the inappropriate spatialization of time that leads to the 'metaphysical error ... of consciousness crawling up world-lines' (*ibid.*: 240), and he would no doubt accuse me of committing the same error in my use of the road analogy.[15]

My response to this objection has two parts. First, I will acknowledge that in my adaptation of Lewis' road analogy, I am importing a notion of passage that is not part of the B-Theoretic ontology (though I did acknowledge the subjective nature of the 'movement'). Nevertheless, that notion *is* part of our experience of time, and when we talk about the threat of fatalism and the fixity of the future, it is not clear that our *experience* of events in time does not provide evidence about the *nature* of events

[14] I should note that this B-Theoretic picture does not imply that B-Theorists deny change altogether, they just redefine it in a way that the picture allows.

in time (i.e. whether they are fixed). At least, it is not clear that it is appropriate to discuss the threat of fatalism—given that it is an agent centered doctrine—without taking into account the human perspective. Perhaps it *is* an error to speak of 'consciousness crawling up world-lines', but I am not sure what the alternatives are on a B-Theoretic ontology. If one endorses a physicalist view of the mental (which Smart certainly does), then I suppose an individual's consciousness at time *t* is just the brain state of that individual's temporal part located at *t*. But does this mean we all have to be physicalists in order to make sense of consciousness on a B-Theoretic ontology? Regardless of what inferences we draw from it, our consciousness does *seem* to flow from one moment to the next, and this seeming is as much a part of reality as is the B-Theorist's future. If spatializing both aspects of reality helps us to visualize the human perspective in a B-Theoretic world, then perhaps a more heterogeneous logic than Smart allows is required for the word 'space'.

On the other hand, suppose we adjust my adaptation of the road analogy, so that the road is analogous to my entire space-time worm. So cross sections of the road would be analogous to my temporal parts. This is certainly in keeping with Lewis' original analogy, as well as with Smart's strictures concerning the spatialization of time. Besides making it a little more cumbersome, and a little less dramatic, does this adaptation change the substance of my argument? Now we are assuming that my 'present' temporal part is simultaneous and co-located with Village B (at, say mile marker 15), and that I have a later temporal part at mile marker 30 that is simultaneous and co-located with Village C. Well, what if my mile marker 15 temporal part does not want my mile marker 30 temporal part to be simultaneous and co-located with Village C? Then there does not seem to be anything I_{mm15} can do about it, even if there is a possible world in which I_{mm30} is (am?) not at Village C!

[15] On a space-time diagram, the succession of events that describe the motion of an object define a

Thus, excising subjective experience from the analogy does not seem to make the implications of an existent future any less counter-intuitive. What it does seem to show, however, is that absent the experience of passage, the notion of a fated, inexorable future that 'awaits' us doesn't even seem to make sense. We will return to this point in the conclusion to the chapter.

As for the second objection to my argument from the road analogy, most likely the B-Theorist will say that it is precisely my willing and acting that results in my passing through Village C at mile marker 30 (or the willing and acting of my mile marker 15 through mile marker 30 temporal parts). That is to say, as long as the causal process involved in my willing and acting results in my passing through Village C, then I am no less free than I would be if the future were non-existent. Pick a future event such as Susan's going to Anstruther at a future time t_f. If one can trace back the causal chain from that event to Susan's actions and volitions, then Susan goes to Anstruther of her own free will—regardless of the fact that the event of Susan's going to Anstruther exists eternally. Consider that, assuming the impossibility of backwards causation, one cannot trace a causal chain from a past action, as effect, to a present volition, as cause, and it is obviously this point that encourages the B-Theorist to ground the asymmetry of fixity in the unidirectionality of causation.

B. A Time Travel Story

One way of illustrating the B-Theorist's second objection to my argument from the road analogy is by reference to a time travel story. Suppose a time traveler from the future appears in front of you, hands you an envelope, and claims that the envelope contains a description of a day in your life exactly two years from now. He knows because he spends that day with you, and has traveled back to conduct a little

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continuous line called the *world line* of the object (Sartori 1996: 139).

experiment. He urges you, in the spirit of cooperation with the experiment, not to open the envelope until the end of the day in question. You comply, and two years later, at the end of the day, you read an accurate description of most all that you say and do that day. Right down to your vocal expressions of how you feel throughout the day, and what you are thinking and deliberating about. Now, you would surely be surprised that there is someone who not only foreknew this, but someone who fore-*experienced* it; that is to say, not only did certain propositions about that event antecedently admit of determinate truth values, but the event in question antecedently had a concrete existence—at least antecedently to your conscious experience of it. In spite of this surprise, however, would the sense of free agency that accompanied your thoughts and actions throughout that day now seem diminished? Clearly, claims the B-Theorist, it would not. Regardless of the tenseless, eternal existence of the events of that day, your volitions led to your actions and to their effects, so those events and actions were not fixed or fated prior to their occurrence.

Suppose, however, that your time traveling friend wanted to repeat the experiment. He hands you another envelope, and says, 'See you in two years'. But this time you are not feeling very cooperative, so you open the envelope and read the letter. *Now* will you feel as though your future is fixed? It seems, in this case, that you would. Perhaps you do everything you can to avoid being at the place and in the circumstances described in the letter. But as the appointed day draws nearer you realize that your very attempts to avoid fulfilling the 'prophecy' in the letter are, instead, *leading* to its fulfillment. You have good reason to believe the details of the letter are true, so in what sense are you able to prove them false?

Lewis (1986b) claims that this type of fatalistic argument confuses irrelevant facts about the future with relevant facts about the present. Suppose you are able to do some time traveling of your own, and you travel back to a time before your birth.

According to your personal time, your birth is still in the past; but now according to external time, your birth is in the future.[16] Are you able to commit acts that contradict your knowledge of personally earlier but externally later events? According to Lewis, even if you know, based on your personal past, what the external future will be, this is a fact about times other than the present moment, and only facts about the present moment are relevant to whether you can presently act freely. Perhaps your present *belief* that you are unable to change history is a fact about the present, but this item of belief is compossible with your acting contrary to history. What is not compossible with your acting contrary to history is your knowledge of that history—but, again, this item of knowledge is not entirely about your present. So facts about the future are not facts that are relevant to what you can and cannot do, 'in any ordinary sense', as Lewis puts it (*ibid.*: 78). Thus we can have knowledge of propositions about the future, and—assuming the possibility of time travel—can even have first hand experience of concrete events that are now future; and we can have all this without the threat of fatalism, since facts about the future are only relevant to what we will do, not to what we are able to do.

One possible, and obvious, line of response to the B-Theorist's objection here is to question the validity of her sense of free agency. Is the Lewisian 'ordinary sense' of being able to do something truly ordinary, or is it a far cry from the common sense notion of being free to do something? I do not, however, wish to pursue this line of response, since I think it lies too close to the incompatibilist's objection to the compatibilist's notion of free will. Instead, as a response, I want to offer one final argument for the thesis that an existent future is a fixed one, before moving on to my concluding remarks.

[16] For a description of these distinctions, see Lewis (*op.cit.*: 69-70)

Recall the distinction between logical and ontological fatalism that I outlined in the Introduction to the thesis. The reader may have noticed that I have been relying on this distinction in my presentation of the time travel examples. Thus, I have been keen to stress that the examples not only involve antecedent truth and foreknowledge, but also antecedent existence and fore-experience. I stress this because the Lewisian response to the fatalistic argument, above, as well as many of the B-Theoretic responses to fatalism, seem only to count against *logical* fatalism. That is to say, they only seem to explain away the fatalistic implications that supposedly follow from truth, or from knowledge, about the future. They seem to ignore the point that in addition to there being eternal truths, or facts, about the future events in the examples, the events themselves have, in some sense, *occurred.* I say 'in some sense' because the B-Theorist will object to my use of the past tense 'occurred', rather than the tenseless 'occurs'. But even if you deny objective temporal becoming, you will still have to acknowledge that the time traveler in the first example has consciously experienced the events described in the letter. And so, for him, those events have occurred 'before' he hands you the letter.

So why is this point supposed to count against Lewis' response to the fatalist? He says that knowledge of the future is not a fact (entirely) about the present. Only our present beliefs about the future are facts entirely about the present, and these are compossible with the future being other than what we believe it to be. What is the justification for the claim that facts not entirely about the present are not relevant to what we are able to do? One thought might be that such facts[17] *could have been* different; and since our actions partially determine what those facts are, the latter must conform to the former, rather than the converse. The thought is simply that facts

[17] Here I am rendering 'fact' simply as a 'truth' or a 'true proposition', and not as the more inclusive 'state-of-affairs that makes a true proposition true'. Again, the motivation for this bifurcation between a truth and a truthmaker will have to wait until Chapter 3.

about the future cannot condition our ability to act, because such facts counterfactually depend upon our actions. So if it is true that you do not change history, or that you do not act contrary to what is described in the 'prophetic' letter, then this truth is a *result* of your actions, not a determinant of them. The truth about what you will do tomorrow is true because *you make it* true. Now, while I acknowledge the respectability of this response in the case of logical fatalism, I cannot see how it applies in the case of ontological fatalism—where the truths in question are about events that have, even if only for some individuals, already occurred.

Perhaps I can better illustrate this point by reference, again, to the road analogy. The logical fatalist will argue that the truth of the proposition, 'You will pass through Village C at mile marker 30', fixes the corresponding event. The proper anti-fatalistic response to this is to say that the truth of the proposition does not fix the event, rather, the future occurrence of the event fixes the truth value of the proposition.[18] So, if I don't pass through Village C at mile marker 30, then it's not that a once true proposition has been made false, but simply that that proposition had always been false. Thus the truth values of propositions about the future counterfactually depend upon the future occurrence of their corresponding events. But here we are speaking of counterfactual dependence of the truth values of propositions, i.e. properties of abstract entities, on concretely existing events. According to the road analogy, however, we have not only future truth, but future *existence*. So, the response to the *ontological* fatalist cannot rely upon counterfactual claims, but must rely upon counter-*existence* claims: something along the lines of, 'If I don't pass through Village C, then it doesn't lie along my route.' But what nonsense is this? There it is, right there on the map, it does lie upon my route! If a future event

[18] See Chapter 4.

E_f exists, then it is simply a contradiction to suggest that E_f's counter-factual non-existence secures the non-fixity of the future, since E_f *does* exist. The point is, although the truth about the future may counterfactually depend upon my actions, what has come into existence cannot be other than what it is, and thus the response to the logical fatalist loses its force in the context of *ontological* fatalism.

Conclusion

So where do the arguments of Section II leave us? Although I ended that section with a final argument against the B-Theorist, it seems one can always anticipate a B-Theoretic response. In this case, the B-Theorist is probably going to say that my appeal to 'what has come into existence' is one that presupposes a dynamic conception of time, and so cannot be used to show that a static conception of time implies a fixed future. The B-Theorist denies that *anything* 'comes into existence' in the sense intended by the A-Theorist—the sum total of existence is not temporally relative; and although that sum total is fully determinate and static, it is not necessary, and so might have consisted of different entities. From there the dialectic will continue much as it has done. Is there any end to this impasse? Perhaps not, but I think a diagnosis of the impasse can be found precisely in the B-Theorist's denial of temporal becoming.

Although the majority of both A-Theorists and B-Theorists believe that the past is fixed and the future is not, we have seen that the sense in which they intend this asymmetry is very different. For the A-Theorist, it is a robust one, according to which there is an *objective* potency about the future, as contrasted with the present and the past. This is most often cashed out in terms of a non-existent/non-actual future, whereby the ontological status of what was once the future changes, or becomes something else, in the present. It is this objective temporal becoming of the future in the present that imparts to the A-Theorist's notion of temporal asymmetry its

robustness. Thus objective temporal becoming is constitutive of the A-Theorist's conception of the asymmetry of fixity. Contrast this with the B-Theorist's notion of the asymmetry, and we find a much more limited sense in which the future differs from the present and the past. As we saw in Section I.B. with Mellor's account, it is not an ontological difference, but merely a modal difference: all events on the timeline are actual, but future events are not temporally necessary in the way that present and past events are. For the A-Theorist, however, the modal difference between the future and the past can only obtain if there is an ontological difference—for an event to be actual, *just is* for it to be temporally necessary. This view arises directly out of a belief in objective temporal becoming.

Given this distinction between the A- and B-Theoretic conceptions of the asymmetry of fixity, it should come as no surprise that the two antagonists are unable to come to an agreement on whether the B-Theory implies a fixed future: they are talking past one another. While this latter point is certainly not surprising, perhaps the diagnosis of the disagreement about temporal becoming as the source of the misunderstanding is. For the A-Theorist (according to my generic characterization), events become fixed as time objectively passes, i.e. as they come into existence; and this is why it is so difficult for her to conceive of existent events that are not fixed.[19] So in evaluating the B-Theorist's position, the A-Theorist is smuggling in the A-Theoretic notion of temporal becoming, a notion that is simply not intelligible on a static, ontologically symmetrical conception of time. As we have seen, this is particularly clear when the A-Theorist argues that an existent future implies ontological fatalism, since that argument seems to depend upon the robust conception of fixity for its intelligibility. Do these observations, then, vindicate the B-Theorist?

[19] To remind the reader, my rendering of the generic characterization is embodied in the following two tenets: i) the affirmation of the dynamic nature of time, according to which temporal becoming is an objective feature of reality, and ii) the denial of the existence of the future.

To a certain extent, yes. We have seen that the two antagonists are working with different conceptions of the asymmetry of fixity, and that this difference is based, on the one hand, on an affirmation of temporal becoming, and on the other, a rejection of it. So the A-Theorist can only claim that a B-Theoretic ontology implies a fixed future in her robust sense of the term, and this will do little to ruffle the B-Theorist's feathers, since she does not acknowledge that sense.

So my conclusions from this chapter are twofold. First, I conclude that there is an impasse between the A-Theorist and B-Theorist as to whether an existent future implies a fixed future, and that this impasse is merely a reflection of the impasse between them on temporal becoming. And, second, I conclude that the concept of ontological fatalism is most likely a vacuous one; since it is only intelligible in the light of objective temporal becoming, and, on many views, an assertion of temporal becoming entails the *non*-existence of the future (thus ruling out ontological fatalism by definition).[20] Though these conclusions are admittedly modest, I am content with them. My guiding intuition throughout this thesis is that the past is fixed and the future is not. I have considered whether the B-Theorist can do justice to this intuition, and have concluded that she cannot: not because her arguments fail, but because she embraces a different conception of the asymmetry of fixity. For my part, and with little in the way of apologetics, I will retain *my* conception of the asymmetry, grounded as it is in temporal becoming, and will assume the generic characterization (at least) of the A-Theory throughout the remainder of this thesis. In the next chapter,

[20] The exceptions, of course, are McCall's model, according to which becoming consists in the annihilation of future possible branches of time; and McTaggart's initial conception of time, from which he deduces its unreality. See the Introduction to the thesis, Section I.D. Both McCall and McTaggart acknowledge temporal becoming, but the ontological asymmetry that follows from it is not a robust one of existence. It is, rather, simply one of properties. For McCall, it is the actual/non-actual asymmetry, where this is determined by a multiplicity of future branches versus a singular past trunk. According to McTaggart's conception, it is simply that future events instantiate futurity, and past ones (trivially) don't. McTaggarts's conception, it seems to me, provides the weakest A-Theoretic asymmetry. Notice that if the conclusions of this chapter are correct, it is McTaggart's conception that most threatens to generate ontological fatalism; since it postulates an existent future *and* acknowledges

we will investigate whether the presentist version of the A-Theory can do what the B-Theory could not.

objective temporal becoming. Inasmuch as McCall's ontological asymmetry is grounded in a multiplicity/singularity asymmetry, it seems to be insulated from such a charge.

CHAPTER 2

A-THEORY AND ONTOLOGICAL SYMMETRY

Introduction

Now that we have seen that a B-Theoretic ontology cannot do justice to a robust asymmetry of fixity, we had better discover whether its chief competitor can. As I stated in the Introduction to the thesis, though there are many versions of the A-Theory (as I am characterizing it), they all embrace i) the affirmation of the dynamic nature of time, according to which temporal becoming is an objective feature of reality, and ii) the denial of the existence of the future. This generic characterization served our purposes in Chapter 1, but we shall now have to add to it in order to fix our sights upon the B-Theory's chief competitor: presentism. What does presentism add to i) and ii), above? As the name of the doctrine suggests, presentism tells us that *only* the present exists, so presentism adds iii) the denial of the existence of the *past*.

That presentism is the chief competitor to the B-Theory is agreed upon by the majority of contemporary contributors to the debate. The presentists certainly see themselves as filling this role, and there is no doubt that most B-Theorists would agree. Although there is some discussion of McCall's and Tooley's[1] conceptions of time in the literature, the vast majority of it is concerned with the debate between the B-Theory and presentism. Presentists such as Craig like to characterize their doctrine as the 'pure' form of the A-Theory, since it denies (*contra* McTaggart's conception) that there is a B-series, comprised of events which continually change in their instantiation of A-properties. Temporal becoming, according to the presentist, does not consist in future events becoming less and less future, then becoming present, then past, and then more and more

past; rather, temporal becoming simply consists in events coming into existence and going out of existence in the present. The question we are concerned with here is, how does this ontology of events in time square with our guiding intuition about the asymmetry of fixity? For, although presentism tells us that the past and future are equally unreal, it is also *motivated*, just as any A-Theory of time is, by the common sense intuition that the past is fixed and the future not. As we have seen, it is, in part, this belief in a robust asymmetry of fixity that makes the A-Theory distinctive. But are these two doctrines—that of ontological symmetry and asymmetry of fixity—compatible, or do they represent inconsistencies in the presentist's theory? In this chapter, I will argue that there is indeed an inconsistency between the two doctrines, and that the presentist is unable to account for the temporal asymmetry that is so fundamentally a part of her theory.

In Section I, I will discuss a recent defense of presentism due to Craig. In the course of this defense, Craig attempts to draw out the analogy between modal actualism, on the one hand, and presentism, on the other, by formulating a tensed possible worlds semantics on the model of the tenseless possible worlds semantics endorsed by the modal actualist. I will argue that Craig's tensed semantics, which I will refer to as 'actualist presentism' (AP), are *not* strictly analogous to the tenseless ones, and that this disanalogy highlights the tension between the presentist's doctrines of ontological symmetry and asymmetry of fixity. In Section II, I will undertake an investigation on the presentist's behalf in order to determine whether she is capable of reconciling these two doctrines. The investigation, based on a suggestion from Craig, will involve considering different asymmetries, other than that of ontology, which might be said *fundamentally* to constitute

[1] Tooley adds to i) and ii) the *affirmation* of the existence of the past (and present). We will discuss

temporal asymmetry. The successful candidate for this role must not only provide a ground for the directional asymmetries, but, crucially for the A-Theorist, must also provide a ground for the asymmetry of fixity. In Section III, I will consider whether the presentist is able to avail herself of some of the standard B-Theoretic accounts of the asymmetry of fixity, and will argue that she cannot. In Section IV, I will conclude that the asymmetry of fixity, which the presentist heartily endorses as an objective feature of reality, cannot be accounted for otherwise than through the postulation of an ontological asymmetry. Here, however, I will have to consider an important challenge from the presentist. This challenge will require me to work through a first approximation of an account of past existence that coheres with the A-Theory of time. The results of the discussion in this section lead to a surprising conclusion: the *only* events that exist are past events. I leave further discussion of these results to the Epilogue.

I. Craig's AP: The Problem Highlighted

A. The Modal/Temporal Analogy

Before beginning Craig's presentation of AP, it will be instructive to consider his declared motivation for the doctrine. Many philosophers have seen a close parallel between the presentism/eternalism debate in the philosophy of time, and the actualism/realism debate in the metaphysics of modality. The presentist claims that it is only the present that exists, or at least that only the present exists *simpliciter*—whereas the past and future merely exist derivatively and in virtue of the present. Similarly, the modal actualist claims that only the actual world exists, other possible worlds simply constitute ways the actual world might have been. So on both of these accounts, the 'present' and the 'actual' are objective, non-relational terms that pick out something

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Tooley's view in Section II.C.3. of this chapter, as well as in the Epilogue.

unique. These views are to be contrasted with those of the temporal eternalist (i.e. B-Theorist) and modal realist. For the B-Theorist, tense and temporal becoming are *not* objective features of reality. All times are equally real and exist tenselessly. 'The present' is merely an indexical term: the fixing of its reference depends on the context of utterance. On many versions of the B-Theory of time, reality consists of a four dimensional space-time manifold, whereby objects (or, on some accounts, just events) are spread out in time and are comprised of temporal parts (or perhaps stages). This doctrine is meant to parallel modal realism in that the latter treats 'the actual' as an indexical, and holds that all possible worlds are equally real. So for the modal realist, actuality is reducible to the range of possibilities; and for the eternalist, present (and all tensed) facts are reducible to tenseless ones. Conversely, for the modal actualist, we are to take actuality as a primitive, irreducible notion; and similarly for the presentist regarding the present.

I do not wish to question these alleged parallels. For one thing, if they are legitimate, it is probably the case that they involve a good deal more complexity than I have portrayed. Certainly, there are more fine grained distinctions within both the modal realist camp (such as modal continuism and counterpart theory) as well as the eternalist, B-Theory camp (such as perdurantism and stage theory), and these distinctions would require a more detailed study of how the parallels between the two camps might run. My point in introducing these alleged parallels in the sketchy manner which I have done, is merely to provide the backdrop for Craig's discussion.

Craig (2001) argues that the parallels outlined above support the presentist dissolution of McTaggart's Paradox, and cast doubt upon the eternalist's objections to presentism. First, Craig explains how presentism is unaffected by McTaggart's Paradox.

He claims that the conception of time which grounds the paradox is one that combines a B-Theoretic ontology of events with the A-Theoretic conception of temporal becoming. Such a combination is paradoxical because it requires the A-determinations of past, present, and future—which are contradictory to one another—all to apply to tenselessly existing events. So the image is one of events strung out along the B-series timeline, with the spotlight of the present running over them in the direction of the future. Or, alternatively, the B-series of events can be regarded as moving through a stationary present and in the direction of the past. Thus, on either picture, temporal becoming does not consist in events becoming real, but rather in future events becoming present, and present events becoming past—where the events admit of different degrees of futurity and pastness as time passes.

It is easy to see how Craig intends for presentism to avoid this alleged paradox: by denying the B-theoretic event ontology, and instead claiming that temporal becoming consists in events coming into and going out of existence in the present. So events are not all past, present and future—they are all and only present. This is why presentists refer to their doctrine as the 'pure' form of the A-Theory, because they deny that events are strung out in a B-series timeline. Craig concludes, therefore, that McTaggart's Paradox is only a problem for the 'hybrid A-B-Theory' (Craig, *op.cit.*: 32), and that those B-theorists who cite the paradox as grounds for rejecting the A-Theory clearly have the hybrid, not the 'pure' theory, in mind.

Of course, if one were only concerned with avoiding McTaggart's Paradox, then one would have two options in rejecting the hybrid conception: either to embrace the 'pure' A-Theory, *or* embrace the 'pure' B-Theory, according to which past, present, and future are purely relational determinations which do not pick out objective features of the

world. This view, unlike the hybrid theory, denies temporal becoming altogether. It is at this point that Craig sees the parallels we began with as providing a defence for the presentist. This is because, according to Craig, one can formulate a modal version of McTaggart's Paradox, one which also demands for its solution a decision between the modal counterparts of eternalism and presentism, i.e. realism and actualism; and Craig finds it instructive that most eternalists see the latter as the best response. The *modal* paradox involves the claim that 'every contingent object or event has to be both actual and merely possible' (*ibid.*: 41)—given that an event that is actual in w is merely possible in w^*. But, since an event that is merely possible *cannot* also be actual, and an event that is actual *cannot* be merely possible, we have a contradiction. Craig claims that if we attempt to dissolve the paradox by indexing events to worlds, we fall foul of the same type of regress involved in postulating hyper times in order to avoid the temporal paradox. Here, again, we have a similar choice as in the temporal case; either we can claim that all worlds are equally real and that 'actual' is merely an indexical term (realism), *or* we can claim that the only world that exists is the actual one (actualism).

Craig cites Le Poidevin as a B-theorist who embraces the actualist response in order to avoid the modal paradox, but who, in the same breath, denies that the presentist's response to the temporal paradox is tenable. According to Craig, however, the parallels between presentism and actualism are such that the latter is open to the same type of objections as those that Le Poidevin brings against the former, and that the responses the actualist would give to such objections can also be given by the presentist in defence of her doctrine. Similarly, in objecting to eternalism, the presentist can avail herself of the same type of arguments as the actualist does in objecting to the realist response in the

modal case. Craig lists Five Theses that Le Poidevin claims the presentist is committed to, and which, in turn, imply an unacceptable 'temporal solipsism'. They are:

> 1. The extension of the existential quantifier is restricted to presently existing objects.
> 2. Relations obtain only between contemporaries, that is, objects existing at the same time.
> 3. Past and future tenses are to be interpreted as sentential operators on core present-tense sentences, the present tense not requiring representation by an operator.
> 4. Instants are logical constructions out of propositions.
> 5. Past- and future-tense statements have only present fact as their truth conditions, that is, what makes a certain statement about the past or future true is the evidence that at present exists. (*ibid.* :35)

According to Craig, these theses are those defended by the presentist A.N. Prior, but Craig denies that the presentist need be committed to them, and so outlines a version of presentism which is meant to avoid the charge of temporal solipsism. In light of this defence of presentism, which is intended to be analogous to the actualist's defence against the modal realist, Craig claims that it is inconsistent for the actualist not also to adopt presentism in the temporal case.

B. Actualist Presentism

The above outline offers a flavor of Craig's motivation and strategy. From this point, however, I would like to set aside the charges of inconsistency Craig brings against the eternalist who is also an actualist, and instead focus on Craig's actualist presentism (AP). It is the latter that highlights the inconsistency *I* am charging the *presentist* with in this chapter. Craig begins his presentation of AP by citing Wolterstorff (1979) and Plantinga (1974) as sources. He adopts Plantinga's possible worlds semantics, whereby a possible world is conceived as a maximal possible state of affairs. A state of affairs S is maximal if for every state of affairs S′, S includes S′ or S precludes S′ (Craig, *op.cit.*: 36). Such worlds and states of affairs have naturally been thought of as tenseless; but, taking Wolterstorff's lead, Craig suggests that we still require tensed states of affairs, in addition to the tenseless ones, in order to account for tensed facts. The maximality of such states

of affairs would be temporally indexed to a stipulated temporal location and duration, as opposed to the absolute maximality of tenseless states of affairs. So he defines a tensed possible world as a 'maximal possible state of affairs at some time *t* of arbitrarily stipulated duration' (*ibid.*). All tensed possible worlds that obtain, whether past, present, or future ones, are tensed actual worlds. So the world that obtains presently is the tensed actual world, and the world that obtains at some time *t* is the tensed actual world that obtains when *t* is present.

Craig sees a tight analogy between tenseless and tensed possible worlds semantics, and tries to show that the analogy fits nicely with a presentist approach to tensed possible worlds. For example, in tenseless possible worlds semantics, we say that Socrates has in W the property of being snub-nosed if and only if Socrates would have (tenselessly) the property of being snub-nosed were W to be actual. The analogous truth conditions in tensed possible worlds semantics for saying that Socrates has the property of being snub-nosed in a tensed possible world W^t, are that Socrates would have (present-tense) the property of being snub-nosed were W^t to be actual. Similarly, just as each tenseless possible world exists in each such world, so each *tensed* possible world exists in each such world. The tenseless actual world α is the only one that obtains, but each tenseless possible world W exists in α and is actual in or at itself. α is also actual in itself, but the difference is that 'α is not merely actual in α, but also actual *simpliciter*', and is therefore unique (*ibid.*). In the same manner, although the tensed actual world v is the only one that is actual *simpliciter*, because it obtains (present-tense); nevertheless, each tensed possible world W^t which does not obtain still exists and is actual in itself, and those that are not *merely* possible, but also tensed actual worlds (i.e. $W^{t\alpha}$), either have been or will be actual *simpliciter* when they obtain in the present.

As I understand Craig, he wishes to maintain that in the tensed case possible worlds may fall into one of three different categories: i) those that are merely possible (whether past, present, or future) and so never actually obtain; ii) those that are actual but do not (yet/any more) obtain (i.e. future and past tensed actual worlds); and iii) *the* actual world that also obtains (i.e. the present tensed actual world). I also take it that those that fall under categories i) and ii), above, are actual in or at themselves, but not actual *simpliciter*. But is this account of tensed possible worlds really analogous to that of tenseless possible worlds? Craig's preferred account of the latter has it that possible worlds only fall into *two* different categories: i) those that are merely possible, though actual in themselves; and ii) *the* tenseless possible world that is also actual *simpliciter*. The disanalogy seems to lie in the fact that Craig moves from tenseless merely possible worlds which are not actual *simpliciter*, to tensed possible worlds which, though not actual *simpliciter*, have a more robust ontology than do tensed *merely* possible worlds. *All* tenseless possible worlds that are actual in themselves, but not actual *simpliciter*, are merely possible worlds; whereas *some* tensed possible worlds that are actual in themselves but not actual *simpliciter* (yet/anymore), either will obtain or have obtained, and so are *not merely* possible.

I am not concerned, here, with whether this disanalogy between modal actualism and AP is a real problem for Craig' semantics. What I am concerned with is the tension the disanalogy highlights between the presentist's belief in ontological symmetry and in her belief in the *a*symmetry of fixity. Given the former, Craig must claim that there is no ontological distinction between past and future tensed possible worlds that actually have obtained/will obtain. How, then, should he characterize them? If he wishes to maintain a strict analogy with tenseless possible worlds semantics, he should claim that such worlds

are merely possible (since they're not actual *simpliciter*). But then he would not be able to distinguish between past possible worlds that have obtained, and those that might have obtained though did not. In other words, he cannot account for a fixed yet contingent past. It is for this reason, I take it, that he introduces the disanalogous class of tensed possible worlds which, though actual in themselves (as are all possible worlds), are neither actual *simpliciter* nor merely possible. These are the worlds that have obtained and will obtain. But now he faces a problem that goes beyond the disanalogy, because in positing the existence of future tensed possible worlds that are not *merely* possible, how can he account for the *non*-fixity of the future? If such worlds *exist now* and are more than just mere possibilities, but are those possibilities that *will become* actual in the present; then in what sense is the future non-fixed? Craig's AP tells us that future tensed possible worlds *presently* have the same degree of actuality as past tensed possible worlds, and this runs counter to the A-Theorist's intuitions about the asymmetry of fixity.[2]

II. Presentism and the Asymmetry of Fixity

A. A Hierarchical Account

So how does the presentist intend to reconcile this tension between ontological symmetry and the asymmetry of fixity? Unfortunately, most presentists are rather silent on the issue. The literature is occupied more with discussions about language and tense than about ontology and modality. Craig is one of the few presentists who has tried to develop a thoroughgoing presentist metaphysic, and he acknowledges that the presentist owes an account of why—though past and future are equally unreal—'the past is actualized while

[2] I do not wish to exaggerate the force of this argument. There are, no doubt, things that Craig could say in his defense. But, of course, I have more things to say as well. It is enough for my present purposes if the A-Theorist's eyebrows are at least raised.

the future is merely potential' (Craig 1991: 152).[3] Further, he acknowledges that this account must go beyond the 'mere tautology' that 'past events are different from future events because only past events have actually occurred' (*ibid.*). I will, therefore, take Craig's suggestion as to what fundamentally constitutes temporal asymmetry as the starting point of my investigation.

He claims that the 'asymmetry between past and future lies not in their ontological status, but in the fact that in the present there are traces only of the past, and this fact is rooted in the impossibility of backwards causation, which is founded, in turn, upon the objective reality of temporal becoming' (Craig 2001: 34n10). This appears to be a hierarchical account of temporal asymmetry: although it is fundamentally constituted by objective temporal becoming, causal unidirectionality and present traces of past (but not future) events are also a part of the hierarchy and contribute to the asymmetry. Craig describes the presentist conception of objective temporal becoming as one of continual 'creation/annihilation', as opposed to a species of change (*ibid.*: 44). So the passage of time is an objective feature of reality, and it is this feature that accounts for the unidirectionality of causation, and thus for temporal asymmetry. Objective temporal becoming involves the coming into being and the going out of being of present events, and there is no ontological difference between that which is prior to the creation (the future) and that which is subsequent to the annihilation (the past)—they are equally unreal. Given this picture, then, let us examine the elements of the hierarchy in turn, beginning with the least fundamental, and determine to what extent each of them can account for the asymmetry of fixity.

[3] I take Craig's acknowledgment of the asymmetry of fixity here as a justification for my challenge to the presentist.

B. Traces of the Past

First, we will consider present traces of past events. Following the quotation regarding temporal asymmetry, above, Craig refers us to a passage from his (1991). In this passage, he elaborates more on the role played by traces of the past in determining temporal asymmetry. His explanation relies upon an A-Theoretic interpretation of the Special Theory of Relativity (STR), according to which there is one privileged frame of reference (contrary to Einstein's interpretation), and according to which it is cosmic time that provides such a frame. Craig argues that on this interpretation of STR, the A-Theorist can claim that the future, relative to the frame of cosmic time, cannot be experienced as real. He says

> cosmically past and present events having for two local observers in relatively moving inertial frames a space-like separation can be experienced by those observers in different chronological order due to the relativity of simultaneity, whereas no cosmically future event can be so experienced (Craig, *op.cit.*: 152)

Since it is the reception of an object's reflected light rays which determines the relativity of simultaneity, Craig claims that these light rays can be thought of as traces, and therefore the difference between (cosmic) past and future is that 'while there exist traces of past events (reflected light rays) there cannot exist any traces of future events, which are purely potential' (*ibid.*).

We should pause here a moment to ensure we understand what Craig intends. Consider Figures 2.1 and 2.2, below.[4] Both figures depict the same three events in the course of a simultaneity experiment, but each relative to observers in different frames of reference. The experiment involves a train moving at constant speed V relative to the ground. At 1200 two light flashes are sent out from an observer, M', stationed on the train at its midpoint: one towards the front of the train, one towards the rear. Call the

initiation of these flashes event 1 (E_1). Events 2 and 3 (E_2 and E_3), are the arrival of the light rays at the rear and front of the train, respectively. Figure 2.1 depicts E_2 and E_3 from the perspective of M' and two other on board observers, F' and R', stationed at the front and rear of the train. Figure 2.2 depicts the same events but relative to the reference frame of three corresponding *ground* observers, F, R, and M. In Figure 2.1, E_2 and E_3 occur simultaneously at 1203[5], given that the signal was sent from the midpoint of the train and that the train is in a state of rest relative to the observers. In Figure 2.2, however, given the movement of the train relative to the ground observers, as well as the constancy of the speed of light as postulated by STR, E_2 occurs at 1202 and E_3 occurs at 1204. Thus simultaneity is relative.

Now imagine that there are three corresponding observers, F", R", and M", monitoring these events from a third frame of reference. For the sake of simplicity, assume that these observers are on a train of the same size and configuration, that is running on a track parallel to the original train at the same speed, but in the opposite direction (i.e. backwards). Also assume that when E_1 occurs, M, M', and M" are all in a line that intersects the tracks perpendicularly. So now, in the frame of reference of the second train's corresponding observers, the first train is moving at speed 2V, and so E_2 and E_3 occur at 1201 and 1202, respectively. In order to illustrate the role played by cosmic time in Craig's A-Theoretic interpretation of STR, we can think of the second train's frame of reference as representing that of cosmic time. When E_2 is cosmically present and E_3 cosmically future, then both events are still in the future for the ground and first train's observers (see Figure 2.3, below). Thus the second train's observers can

[4] These figures, and the examples they depict, are from Sartori (1996: 55-8), though I have adapted them for my purposes.

[5] Obviously, these artificial time intervals are merely for illustrative purposes.

experience the other observers' future; but neither they, nor anyone else, can experience the future relative to their own (cosmic) reference frame. And this is so in spite of the fact that when E_2 and E_3 are cosmically past they are experienced in different chronological order by the other sets of observers. And Craig's point is, I take it, that the experience of cosmically past events as present in other reference frames does not imply that those events cosmically exist; but only that their traces exist. So when the first train's observers and the ground observers experience E_2 and E_3, they are experiencing the reception of light rays resulting from events that no longer exist, not the events themselves.

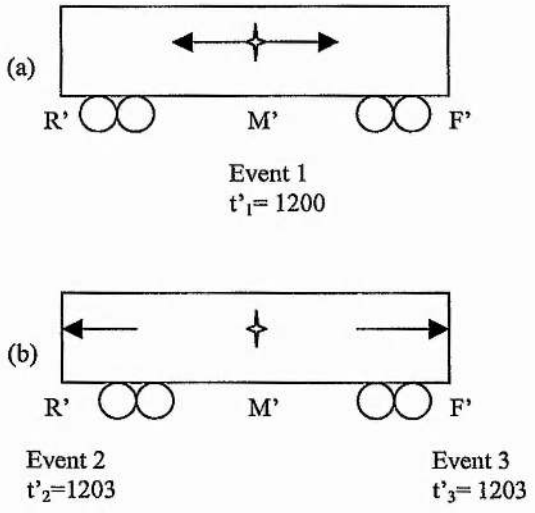

Fig. 2.1. Simultaneity experiment as seen by train observers. (a) Light flashes leave M' (event 1); (b) light flashes arrive at R' (event 2) and at F' (event 3). Since the paths of the two rays are of equal length, their arrivals are simultaneous: $t'_2=t'_3$

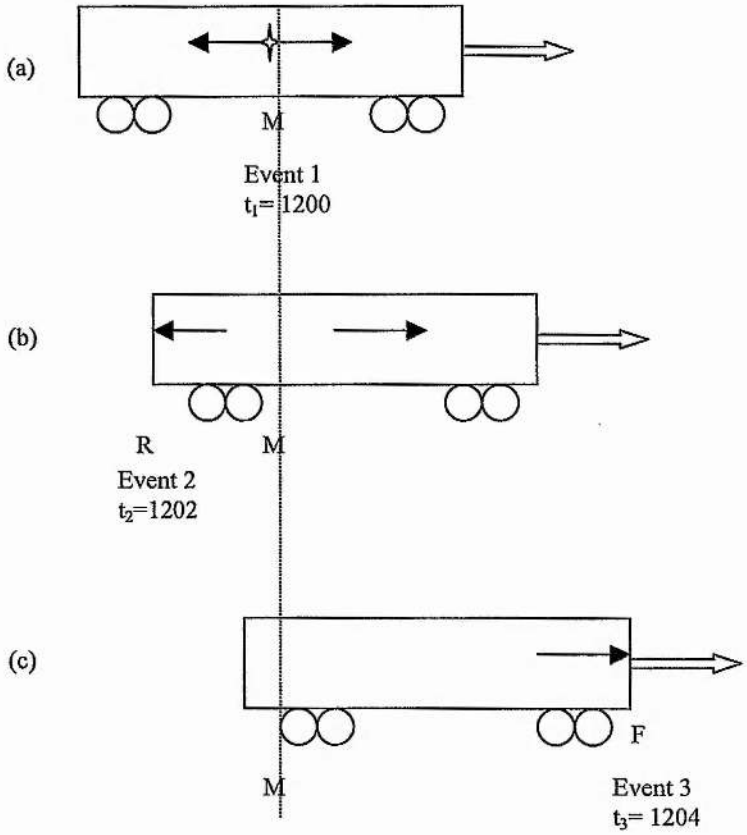

Fig. 2.2. Simultaneity experiment as seen by ground observers. (a) Light flashes leave M (event 1); (b) light flash arrives at rear of train (event 2); (c) light flash arrives at front of train (event 3). Event 2 occurs before event 3. Note that in sketch (b), the forward-moving ray is still in route.

Fig. 2.3.	COSMIC (2^{nd} train)	GROUND	TRAIN
E_1	1200	1200	1200
E_2	1201	1202	1203
E_3	1202	1204	1203

Though I do not wish specifically to question Craig's revisionist interpretation (which he calls 'neo-Lorentzian') of STR, it's not entirely clear to me that cosmic time can do the work that he requires of it (*ibid.*: 283-5). While it may be the case that there is one single privileged reference frame, to which all others are relative, and that this reference frame yields 'absolute simultaneity and a world-wide edge of becoming' (*ibid.*: 283); nevertheless, the cosmic time which Craig relies on to fill this role is based on the uniform and isotropic expansion of the universe, which is a contingent, empirical phenomenon. It is difficult to see, therefore, that cosmic time could yield what are presumably metaphysically necessary conclusions about absolute becoming. Consider the second train in our example. If it were moving in the same direction as the first train, and at a speed of 1/2V, then observers in the second train would experience E_2 and E_3 *after* the other sets of observers, in which case cosmically future events would be real for them. There is, of course, a sharp disanalogy between the movement of a train and the expansion of the universe: given that the latter is universal, uniform, and isotropic, its reference frame is available at all locations in the universe. But it is possible that the universe not be an expanding one at all. If this possibility were actual, would there also then be no temporal becoming? Of course, one might have independent metaphysical or theistic grounds for embracing a neo-Lorentzian interpretation of STR. These grounds might lead one to a postulation of a 'metaphysical' or a 'God's' time as providing the

preferred frame of reference; but Craig also wants to argue that empirical data directly supports his interpretation, and this claim seems questionable.

Another concern is with Craig's use of STR in trying to account for temporal asymmetry while maintaining his presentist symmetry of ontology. Certainly, traces of future events are not to be found in the present, whereas traces of past events are; but this seems to be true regardless of any considerations derived from STR. Perhaps he thinks STR provides a scientifically coherent illustration of how past events, though non-existent, can leave traces in the present; for he makes the point that 'the no longer existent past event does not act at a temporal distance to immediately produce some later effect' (*ibid.*: 152). But STR can also provide (and is normally interpreted *as* providing) a scientifically coherent illustration of how *all* events are *equally real*. So it is odd that Craig would appeal to STR in the context of an account of temporal asymmetry.[6]

Furthermore, one wonders whether the mere observable phenomena of past traces could really serve as a ground for the temporal asymmetry of a fixed past and non-fixed future, or whether such phenomena are simply manifestations of the asymmetry in question. The claim that the past is fixed is a claim *about* the past. But the observation that the present contains traces of the past is *not* a claim about the past—or at least not an intrinsic claim about the past—it is a claim about the present. Of course, the presentist will not be embarrassed by this, since, from her perspective, it will come as no surprise that non-entities such as the past and future lack intrinsic properties of any sort. But the presentist *does* want to acknowledge the fixity (i.e. actuality) of the past, as contrasted with the non-fixity (i.e. potentiality) of the future, and it is unclear that the reduction to

[6] My point here is that, though the appeal might be appropriate in order to provide a plausible reconciliation of STR and temporal becoming in the context of A-Theoretic apologetics, it seems less appropriate to rely on STR to make a *positive* point (i.e. do some work) in a discussion of temporal asymmetry.

present traces (of the past) can account for an asymmetry that is meant to hold between *past* and *future*.

Setting this concern aside, however, let us adopt the following, presumably plausible, definition of intrinsic fixity:

> *E* is intrinsically fixed $=_{df}$ *E* is fixed and *E* is not fixed in virtue of its relation to anything else

If fixity *is* an intrinsic feature of the past, then given our definition it clearly cannot be reduced to a feature of the present (e.g., traces). But, assuming that a non-existent event could only be fixed in virtue of something that does exist, the presentist must deny that the past is intrinsically fixed. Simultaneously, however, she must assert that fixity is a real, mind-independent property in the world. This follows from her endorsement of objective temporal becoming, a notion that implies that the actual/potential distinction between past and future is equally objective: that which has not yet come into being is merely potential (non-fixed), and that which has come into being is actual (fixed). So if fixity is a real property, then the presentist must acknowledge that it is a property of something real; and if not of the past, then of what? I think there are only two *possible* answers to this last question, neither of which is very *plausible*. The first is that it is a property of traces of the past, rather than a property of the past itself; the second is that it is a property of the present. Let us consider these possibilities.

With regard to the first, it should be clear that if the past is not real and therefore not intrinsically fixed, then neither are traces of the past. Any given trace of a past event is only present for an instant, after which time that trace becomes past itself. Alternatively, we can think of the trace as having duration, in which case it is only present while it continues, becoming past upon its completion (and perhaps giving rise to a new trace). The point can be made in either case, but it is simpler here to speak of

instantaneous events and traces. Thus, an event E which occurs at t_0, and for which there is then a trace a at t_1, may also have a trace b at t_2, but for the presentist b cannot be the same as its immediate predecessor a, since the latter no longer exists. Therefore b is either a trace of a, or both a and b are different traces of the same event E. On either reading, a is *not* intrinsically fixed, since it is only fixed in virtue of b's being present at t_2. Of course, the presentist might try to argue that any series of traces all having the same event origin, and differentiated only by the times at which they are present, can be thought of as intrinsically fixed and thus as providing the ground for the claim that any individual member of the series is fixed. So, a given series of traces a, b, c, ..., all initiated by the same event E, would be thought of as intrinsically fixed, and this collective intrinsic fixity would bestow fixity upon the particular past trace a in virtue of the latter's membership in the series. I cannot, however, see that this proposal would avail the presentist either; for if it is the entire series of traces that is temporally fixed, then the theory begins to look very B-Theory-ish—an obviously unacceptable consequence for the presentist.

The other possible candidate for intrinsic fixity is simply the present. After all, according to the presentist, events (temporally) *become* fixed *in the present*. So it is just as intuitive to call the present fixed as it is the past (Aristotle (1968) certainly held this view, though he spoke of 'necessity' rather than 'fixity'). Furthermore, the presentist maintains that though the past and future do not exist *simpliciter*, they do exist derivatively and in virtue of the present (as in Craig's past and future tensed actual worlds which, though existent, do not presently obtain, and therefore do not exist *simpliciter*). So it would seem that the presentist could claim that it is really the present that is intrinsically fixed, and that the past is fixed *in virtue of* the fixity of the present.

Upon closer inspection, however, we see that the analogy between derivative existence and derivative fixity does not hold; since (for the presentist) time is symmetrical with respect to the former but not the latter, and the asymmetry of the latter is what we are trying to account for. In other words, if the past is fixed in virtue of the fixity of the present, in virtue of what is the future *not* fixed? This is equivalent to the question with which we began, namely, that if all that exists is the present, then what could possibly constitute the difference between past and future? We do not seem to be any closer to an acceptable answer.

Perhaps, however, this is the wrong way to go about evaluating present traces of the past as a ground for the asymmetry of fixity. Another thought might be that present traces *determine* the past. On this view, a fixed past is simply a determined one, and all that need exist in order to account for the fixity of the past is the bit of reality that does the determining, i.e. present traces. Of course, in order to maintain the asymmetry, the presentist is going to have to deny that the present state of the universe determines a future one, and she is going to have to offer an account of *why* the determinism is only pastwards directed. But perhaps this would not prove too difficult, since it is open to the presentist to appeal to agential control as allowing for an indeterminate future—whereas there is no pastwards directed agential control. Unfortunately for the presentist, however, one can argue against forwards determinism in a way that does not involve an appeal to agential control, nor to any phenomenon that exhibits temporal asymmetry. I am speaking here of the quantum mechanical argument against determinism, which tells against determinism as obtaining in *either* temporal direction.

According to forwards determinism, given the present state of the universe S and a future time t_f, there is only one possible state of the universe at t_f that is compatible both

with the laws of nature *and* S's being the present state. The quantum mechanical argument against this view involves noting that one wavefunction (described by S, say) can subsequently collapse into one of two different position eigenstates (at t_f, say), in which case, there are two states of the world at t_f that are compossible with S. This counterexample to forwards determinism can also be adjusted to count against backwards determinism. According to the latter, given the present state of the universe S and a past time t_p, there is only one possible state of the universe at t_p compatible both with the laws of nature *and* S's being the present state. But, again, quantum mechanics theorizes that two different wavefunctions, either one of which might be described by the state of the universe at t_p, can collapse into one and the same position eigenstate described, say, by S. So S does not determine which wavefunction obtains at t_p. Of course, conclusions about determinism from quantum mechanics are controversial, but if the presentist is going to deny the argument's application to determinism, and yet maintain that forwards determinism is false, then she is going to have to present an even less controversial argument for that conclusion; and it is not clear that an appeal to agential control, or any other temporally asymmetric notion, is going to provide such an argument.

C. Causation

1. Waterlow's Account of Causation

In light of these considerations, we had better rule out the appeal to traces, and investigate whether the presentist's appeal to the unidirectionality of causation will prove a more satisfactory ground for the asymmetry of fixity. In order to determine whether this is so, we must first consider what account of causation the presentist should avail herself of. Craig (*op.cit.*: 152) recommends Waterlow's (1974) account, in which Waterlow uses her conclusions about the nature of forwards causation to argue against

the possibility of backwards causation. Her account of forwards causation is based upon the nature of forwards temporal continuing. She argues that a causal relationship can only exist between two events if those events are temporally continuous. Specifically, the cause must continue up to and during the initial occurrence of the effect. A cause does not immediately produce a *later* effect; rather, an occurrence of a cause is *simultaneous* with its effect. One can see how this proposal would appeal to the presentist, since we need not think of the earlier cause as existing in order to account for its later effects, which are detected in the present. There is, I take it, an instant of time when both a particular effect *and* its immediate predecessor temporally overlap, and so exist presently. This account allows the presentist to claim that the past is not exerting any causal power on the present; instead, each successive effect and its immediate cause partially overlap, and so events exert their causal powers *in* the present.

Given that this account of causation and temporal continuing accords well with presentism, and given that we want to allow the presentist the best chance of reconciling what I claim are her inconsistent doctrines, I will take Craig's recommendation and adopt Waterlow's account for the time being. Before proceeding, however, it will assist our investigation if we consider how Waterlow intends for her account of causation to tell against the possibility of backwards causation. Given the dependency of causation upon continuing, she argues that if backwards continuing is impossible, so is backwards causation. In order to rule out the former, Waterlow first argues that the continuation of events is inherently directional, and then argues that this directionality is necessarily from earlier to later (at least for beings such as ourselves). With respect to the first point, she claims that mere (directionless) temporal extension cannot yield the continuing required for a causal relationship, since some causes temporally extend in either direction from

their effects ('as in the case of the heat wave that turns the milk and persists after its turning'); and we would not call these relations cases of both forwards *and* backwards causation (Waterlow, *op.cit.*: 382). Such *bi*-directional causal relations would merely dissolve into *non*-directional ones. If we are going to speak of causation as having direction, then we must also affirm the directionality of temporal continuing. So, in the case of forwards causation, it is not enough that the cause *merely extends* to the pastward side of the effect, but the extension must be one of continuing *from* the cause and up to the effect. And, similarly, in the case of backwards causation, it must not only be the case that the cause lies to the future side of the effect, but it must also continue to the time of the earlier effect *from* the later cause.

So continuing is directional, but is it necessarily unidirectional (from earlier to later)? According to Waterlow, given the structure of our temporal knowledge and experience, the concept of backwards continuing is, for us, unintelligible. She argues that it logically follows from the assertion that an event E is now (forwards) continuing 'that for some time *before* now, E was occurring', whereas such an assertion 'leaves it open whether *after* now, E will or will not be occurring' (*ibid.*: 384). So, in order for it to be the case that E continue backwards in time, an assertion of E's continuing must imply that E will be occurring for some time after now, but that it is open whether E has occurred for any time before now. And, since we take ourselves to have (in principle) certainty about the past, but not about the future, it would be meaningless for us to make an assertion that implied a lack of (in principle) certainty about the past, and the possession of certainty about the future. Therefore, given the meaninglessness of backwards continuing in time, the meaninglessness of backwards causation follows.

So Waterlow wants to show, among other things, that the unidirectionality of temporal continuing determines the unidirectionality of causation. The question before us, however, is whether these unidirectionalities fundamentally constitute and determine temporal asymmetry, as in Craig's suggested hierarchy. If they do, then they must also account for the asymmetry of fixity. But the problem with taking Waterlow's conclusions about unidirectionality and suggesting that they provide us with a foundation for the asymmetry of fixity, is that she argued *from* the asymmetry between past and future *to* the unidirectionality of continuing and causation. Her conclusion that backwards continuing is unintelligible was based on the idea that the past could, in principle, be known with certainty, and that the future could not be so known. And, although she refrains from basing this epistemological asymmetry on any metaphysical asymmetry, the latter is implied by an analogy she offers of water spreading from north to south (*ibid.*). The analogy tells us that an assertion of the water's (now) spreading made at any point implies that water lies to the north of the point but leaves it open whether or not water lies to the south. This imagery seems to paint a perfect picture of the fixity/actuality of the past (water to the north), and the non-fixity/potentiality of the future (indeterminate to the south). So Waterlow's conclusions about unidirectionality are not available for the presentist to use as a foundation for the asymmetry of fixity, given that Waterlow (rightly, I think) reverses the dependence. This is why, at one point in the argument, she acknowledges the presupposition of temporal asymmetry in arguing for the unidirectionality. But the presentist needs to demonstrate that her ontology can account—*in virtue of* the unidirectionality of continuing and causation—for this key tenet of the A-Theory, and Waterlow's arguments do not avail the presentist in that respect. I take this point as merely an instance of the following more general point: any account of

temporal continuing and causation that coheres with an A-Theory of time is going to have to presuppose the asymmetry of fixity; in which case, the former cannot ground the latter.

2. Sorabji's Circular Time

Is there some other consideration, which might allow the presentist to claim that temporal asymmetry is founded upon, and so determined by, the unidirectionality of temporal continuing and causation? In defense of the presentist, one might wonder whether we could even conceive of a world temporally ordered such that time was unidirectional but not asymmetric with regard to fixity. In fact, at first glance, if one thinks of temporal continuing in the way that Waterlow does, then it would seem that we could not. If temporal continuing is not only directional, but necessarily unidirectional (for beings such as ourselves), then it would seem that any unidirectional temporal order would require the fixity of events in the direction from which time has continued, and the non-fixity of events in the direction towards which time will continue. This conceptual difficulty, however, can be dissolved by considering an imaginary situation discussed by Sorabji (1988).

Sorabji considers what the world would be like if time were closed. By this, he does not mean an endlessly repeating *linear* time, where each repetition consists of an identical sequence of events. He rejects *this* conception as impossible purely on the basis of logical considerations: when we apply the principle of the identity of indiscernibles to times, there is nothing to distinguish the reoccurring events, nor the times at which they reoccur, from the initial time series. Thus, the notion of repeating time collapses, since no repetition has taken place. Instead, Sorabji proposes a notion of closed time according to which it is *circular*. In circular time, there would be no first and last event, rather the sequence of events would 'appear to form a seamless, closed circle' (Sorabji, *op.cit.*:

165). Sorabji sees this conception of closed time as avoiding the contradiction inherent in the notion of repeating time, since all events in the circular series occur only once (in the sense that '12 o'clock does not occur more than once on the clockface' (*ibid.*)). Sorabji grants that closed time would require appropriate changes in the laws of physics, ones that allowed for, say, a grown tree to shrink or disappear in time for it to grow again; but he claims that there is no conceptual obstacle to such a picture.

Now, let's consider what would be the ramifications for temporal directionality and asymmetry in closed time. As far as directionality is concerned, on Waterlow's definition of continuing, closed time would also involve (forwards) unidirectionality. The planting of a seed leads to the growing of a tree which leads to the shading of the house; events causally related continue in the same way they do in linear time. Of course, since the sequence of events is circular, and there is no detectable first and last event, one could plant a tree tomorrow in order to provide shade for the house yesterday. But Sorabji does not see this as a legitimate case of backwards causation, and nor should we if we are endorsing Waterlow's view. Although, in a sense, the shading yesterday does continue from the planting tomorrow, it does so in the forwards direction, not the backwards: the shading at t_2 continues from the planting at t_4 NOT through t_3, but through t_5, t_6, …, t_1. So, although planting the tree at t_4 is a cause of something that comes before it in the circular series, the temporal continuing that grounds this causation does not run *towards* the earlier than direction. Another way to state this point is with Sorabji's clock analogy: if the ordering of t_1,…, t_6 designates the 'clockwise' direction, then the temporal

continuing in the above example does not run '*counter* clockwise'. Therefore there is no backwards continuing and thus, on Waterlow's account, no backwards causation.[7]

What about asymmetry? It would seem that the only asymmetries exhibited by closed time are those just discussed, i.e. direction of continuing and direction of causation. As for fixity, since the sequence is closed and composed of a finite number of events, and since all events are equally past, the obvious judgment to make is that closed time is symmetrically fixed. Sorabji disagrees with this judgment, but not in a way that questions the symmetry; rather, he questions the fixity (or inevitability, as he prefers to speak of it) of the symmetrical sets of events. That is to say, he argues that all events are *non*-fixed, and so closed time is symmetrically non-fixed. His initial point here is that we have as much reason to endorse the symmetry of fixity as we do that of non-fixity. Though it is true that in closed time all events are past and the past is fixed, it is also true to say that all events are future and so not yet fixed. A middle aged man's birth would be just as much part of his future as it would be a part of his past. Sorabji uses other arguments which he says tip the balance in favor of a symmetry of non-fixity, and though I take issue with his conclusion, the disagreement is immaterial in the context of our present discussion. If, from the perspective of the present, we can view either direction in time as being both past and future, then clearly there is no asymmetry with regard to fixity/non-fixity. I conclude, therefore, that since we can conceive of time as being unidirectional in respect of continuing and causation, while also being symmetrical in respect of fixity, the asymmetry of fixity is not grounded in the former.

3. Tooley's Account of Causation

[7] Contrast this with Mellor (1998), who (*contra* Waterlow) thinks that the direction of causation is more fundamental than, and so determines, the direction of time (i.e. temporal continuing). Because of this, he does not think that circular time could obtain without backwards causation also obtaining; and so, on his account, the impossibility of the latter rules out the possibility of the former.

Thus far, my arguments against the presentist's attempt to ground the asymmetry of fixity in the unidirectionality of causation have been based upon Waterlow's account of the latter. But perhaps this has restricted the range of solutions the presentist might offer. *Must* the presentist endorse Waterlow's account of causation, according to which the direction of temporal continuing is more fundamental than the direction of causation? Or can the presentist claim that ultimately causation is the most fundamental aspect of time, and therefore a determinant of the asymmetry of fixity? We endorsed Waterlow's account on the presentist's behalf because it allowed for simultaneous causation, and this accords well with the presentist ontology. But the presentist may wish to argue that causal relations between events can still obtain in the present, even though such relations are not determined by temporal continuing in the way suggested by Waterlow. It is one question whether the presentist *can* argue for such a position, it is another whether successfully doing so would yield a non-circular account of the asymmetry of fixity. We will treat these questions in turn.

With respect to the first question, if the direction of causation is to determine, rather than be determined by, the direction of temporal continuing, can the presentist still claim that events are simultaneously caused in the present? Waterlow's claim was that a cause must continue up to and during the initial occurrence of its effect in order for a genuine causal relation to obtain. She also argued that this claim implies that the direction of causation is determined by the direction of continuing. But surely there is room here for the presentist to resist this implication, while agreeing that causal relations are continuous in exactly the way described by Waterlow. As long as the presentist retains temporal continuing as a necessary condition for causation, she can avail herself of Waterlow's rendering of simultaneous causation; but from this, she need not infer that

temporal continuing is more *fundamental* than causation. Just as it is perfectly plausible that for any P and Q, Q's being a necessary condition for P can *result from* P's determining Q; so, too, it is perfectly plausible that though the direction of temporal continuing is determined by the direction of causation, nevertheless, the obtaining of the causal relation necessarily requires temporal continuing between events.

Now, assuming that we have painted an intelligible picture here on behalf of the presentist, can it provide a non-circular account of the asymmetry of fixity? If the presentist were to wed this causal account of the unidirectionality of temporal continuing with a non-reductive, singularist account of causation—according to which causal relations are analytically basic—then perhaps she would be within her logical rights to claim that the impossibility of backwards causation, and, in turn, the asymmetry of fixity, simply result from this conception of causation. The idea would be to claim that E's causing F is just a primitive relation that does not admit of further analysis, and that, as a matter of fact, in our world causes always precede their effects. So there is no backwards causation, and it is in virtue of this fact that the past is fixed. This approach, however, is not a very philosophically satisfying one. We have already seen that it is difficult to argue for the impossibility of backwards causation without presupposing temporal asymmetry. That difficulty is not removed by simply stipulating that it is a brute fact about causation that causes always precede their effects. Granted, empirical evidence strongly suggests that we live in a world where causation is (whether necessarily or contingently) unidirectional. But to simply define 'the future' as that half of the time line that is subject to causal influence from the present does not provide a *ground* for the asymmetry, it simply describes an aspect of it. Furthermore, given our conclusions based on the conceptual possibility of circular time, it is far from clear that the unidirectionality

of causation is a sufficient condition for the non-fixity of the future. Nevertheless, the suggestion outlined above does point to a more sophisticated approach, one that also involves endorsing a singularist account of causation, but one on which the concept of causation does call for further analysis.

The approach I have in mind is that taken by Tooley (1997). If correct, it is one that would prove false my earlier claim that any account of causation that coheres with the A-Theory of time must presuppose the asymmetry of fixity. Although Tooley does acknowledge that one cannot establish the impossibility of backwards causation without presupposing a dynamic conception of time, he offers a singularist account of causation that purports to show that that relation can only obtain on a dynamic conception of time.[8] So for Tooley, causation is fundamental to time, and determines both its direction and asymmetry. Unlike other singularists about causation, however, he does not believe that the relation is analytically basic. It requires an analysis, but the analysis need not be a reductive one, nor need it presuppose causal laws. He goes on to argue, however, that *if there are* laws involving the causal relation (which he takes it that there are), then those laws must satisfy certain postulates. These postulates, in turn, are ones that can only obtain in a dynamic world.

So will this approach work for the presentist? According to Tooley, the most likely type of dynamic world in which his postulates can obtain is one in which both the past and present exist, but the future does not. This, however, seems a more contentious claim than the claim that his postulates require *some* type of dynamic world, and since I think there is a more fundamental worry for Tooley's approach anyway, I will consider it

[8] As we saw in Chapter 1, Tooley uses 'dynamic' as opposed to 'A-Theory' in designating his conception of time. This is because his conception is a hybrid one that involves aspects of both the A- and B-Theory. Here, I will adopt his terminology in discussing his approach to causation, since the asymmetry that I am claiming is vital to the A-Theory is every bit as vital to his dynamic conception.

as a potential solution for the presentist, in spite of its alleged inconsistency with a presentist ontology. The more fundamental worry is that Tooley's postulates, upon which his analysis of causation and his account of temporal asymmetry are based, might themselves presuppose temporal asymmetry. I believe that they do, and thus that the presentist is unable to avail herself of Tooley's approach in attempting to provide a non-circular account of the asymmetry of fixity. In what follows, I will first outline Tooley's postulates and his defense of the claim that they can only obtain in a dynamic world; I will then argue that his postulates actually presuppose a dynamic world.

Tooley's postulates are formulated in terms of the probabilities that causes transmit to their effects—a formulation that is supposed to be neutral with respect to whether time is static or dynamic. The 'crucial content' of the four postulates can be expressed by the following two claims:

> (P1) The posterior probability of a cause is equal to its prior probability, and does not depend upon the prior probability of its effect.
> (P2) The posterior probability of an effect depends upon the prior (and posterior) probability of its cause. [9]
>
> (Tooley, *op.cit.*: 61, 107-8)

According to Tooley, (P1) and (P2) 'entail that, if a type of event with a very low prior probability turns out to be caused by a type of event with a much higher prior probability, then the former type of event must be assigned a posterior probability that is at least as high as the prior (and also posterior) probability of the type of event that is its cause' (*ibid.*: 105). So, for example, before an event occurs that involves drops of water, randomly scattered throughout the atmosphere, all moving in the same direction towards the surface of the earth, the probability of such an event seems very small. But after the occurrence of this event, when we consider its cause in light of the laws of gravity and acceleration, then we must acknowledge that the posterior probability of the event is no

lower than the initial probability of an event that is causally sufficient to bring about the movement of water drops in the same direction. So effects are the recipients of the probabilities of their sufficient causes—probabilities which they do not have prior, but only posterior, to the obtaining of their causes.

Tooley goes on to argue that this picture cannot obtain in a temporally static world. This is because a static world is one in which events do not *become* actual as of a certain time; rather, events are either actual or not—*simpliciter*. According to Tooley, it might initially be thought that in such a world (P2) could still be justified, since there seems to be nothing inherently dynamic about the probability of a cause (at least partially) determining the probability of its effect. To see this point[10], suppose that E occurs at time t_1, and E is causally sufficient to subsequently bring about F's occurrence at t_2. Even if E and F occur in a static world and are therefore actual *simpliciter* (and so eternally actual), this does not bar one from endorsing the highly intuitive claim that the posterior probability of F depends upon the prior probability of E. But the problem, Tooley argues, is that it does not look as if (P1) can be justified, and this does not bode well for (P2).

(P1) is problematic because, given the symmetry of actuality in a static world, the non-actuality of an effect guarantees the non-actuality of its sufficient cause, just as much as the actuality of a sufficient cause guarantees the actuality of its effect. Thus, contrary to (P1), in a static world the posterior probability of a cause *does* depend upon the prior probability of its effect. Tooley's point is that the time at which one considers what is actual is irrelevant. So, in a static world, the probability of E's being actual at t_1 *does* depend upon the probability of F's being actual at t_2, and this dependence obtains

[9] My (P1) and (P2) are paraphrases of Tooley's (C_1) and (C_4), respectively.

regardless of the time at which we consider it. Whereas, in a dynamic world, F is not actual until it occurs at t_2, so the prior probability at, say, t_0, of its occurrence at t_2 does not affect the posterior probability at, say, t_3, of E's having occurred at t_1. And, given our inability to justify (P1) on a static conception of time, Tooley claims that (P2) also cannot be justified; since the latter is only justified if we assume that the posterior probability of a cause is equal to its prior probability—an assumption that is effectively ruled out by our inability to justify (P1).

But notice how trivially Tooley's postulates, by his own lights, imply a dynamic conception of time. Doesn't this suggest that, rather than proving that the world is a dynamic one, they must presuppose that it is? Certainly, if I were a B-Theorist, this is the tack I would take in arguing against Tooley. Consider that, inasmuch as (P1) and (P2) claim that the relation between posterior and prior probabilities differs for causes and effects, there is an asymmetry built into the postulates: posterior probabilities of effects depend upon prior (and posterior) probabilities of causes, but posterior probabilities of causes do not depend upon the prior probabilities of effects. Perhaps, however, this objection is an unfair one, since the proponent of a static theory of time does acknowledge a limited temporal asymmetry. So as long as (P1) and (P2) only presuppose a limited asymmetry, such as could happily be acknowledged by the proponent of a static world, then Tooley's postulates would remain neutral with respect to different conceptions of time.

But a further consideration will demonstrate that this response will not spare (P1) and (P2) from the charge that they presuppose a dynamic world. Tooley, in addition to characterizing a dynamic world in terms of actuality at a time (as I have done above), is

[10] Though the point is Tooley's, the following example is mine.

also fond of characterizing it as one in which what facts there are depends upon what time it is. Here, facts are to be thought of as states of affairs that function as truthmakers for true propositions. Now, this seems a fair characterization—certainly one that any A-Theorist should agree does capture the nature of a dynamic world; but, in light of it, consider that built into (P1) and (P2) is the idea that the probability of the occurrence of an effect differs according to whether we consider it prior or posterior to the occurrence of its cause. In other words, the facts about what probabilities there are depend upon *what time it is*. Thus, (P1) and (P2) presuppose a dynamic world according to which there is a robust temporal asymmetry as to what is actual, and therefore they are not available for the presentist to use as a ground for the asymmetry of fixity. And so I stand by my claim that any account of causation that coheres with the A-Theory of time must presuppose the asymmetry of fixity. [11]

III. Presentism and the Asymmetry of Fixity—Continued

A. B-Theoretic Accounts

In Section II we tried, but failed, to vindicate the hierarchy of dependence that Craig has suggested grounds the asymmetry of fixity. Given our lack of success in making Craig's suggestion work, perhaps we should consider another class of solutions. Although presentists (other than Craig) do not seem to have given much thought to providing an account of the asymmetry of fixity, B-Theorists have been more forthcoming in recognizing that their doctrine of ontological symmetry demands such an account. Suggestions that have been offered, to name but a few, include the asymmetry of counterfactual dependence (Lewis 1979), the asymmetry of entropy (Horwich 1987: Ch.

[11] It is worth noting here, that Tooley interprets the asymmetry of actuality that he sees following from his postulates, as involving an asymmetry of ontology. This is why he thinks his account rules out a presentist ontology. But since it is the purpose of this chapter to *demonstrate* that an asymmetry of actuality (or

4)[12], and, of course, the asymmetry of causation (Mellor 1998: Chs. 10-11). Would any of these B-Theoretic accounts be of use to the presentist? There is a fundamental reason why I think they would not: ultimately, these accounts are incompatible with the A-Theory. This incompatibility, however, is not immediately obvious, so I will have to elaborate.

Recall our discussion at the end of Chapter 1 regarding the relationship between temporal becoming and the A-Theorist's notion of the asymmetry of fixity. As we saw, for the A-Theorist the asymmetry is a robust one, according to which there is an *objective* openness and potency about the future, as contrasted with the present (and the past, if you are a non-presentist A-Theorist). In whatever way the A-Theorist chooses to characterize this asymmetry, it will always involve a change in the ontological status of what was once the future, whereby the future becomes something else in the present. Recall that it is this objective temporal becoming of the future in the present that imparts to the A-Theorist's notion of temporal asymmetry its robustness. So it is the combination of objective temporal becoming *plus* the asymmetry of fixity that makes the A-Theory distinctive. And *this* is precisely why Craig claims that the asymmetry is ultimately grounded in objective temporal becoming. Again, contrast this with the B-Theorist's notion of the non-fixity of the future, and it is a much more limited sense in which the future differs from the present and the past. It is not an ontological difference, but merely a modal difference. For the generic A-Theorist, however, the modal difference between the future and the present can only obtain if there is an ontological difference. This view arises directly out of a belief in objective temporal becoming, a belief that the B-Theorist

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fixity) is grounded upon an asymmetry of ontology, I have refrained in the foregoing discussion from endorsing Tooley's assumption that it does.

rejects. So if some aspect of temporal asymmetry is meant to ground the asymmetry of fixity independently of an affirmation of objective temporal becoming, then the distinctiveness of the A-Theory is lost. It is for this reason that I believe that A-Theorists cannot make use of the B-Theoretic attempts to ground the asymmetry of fixity.

Notice, too, that the foregoing discussion has pointed to a diagnosis of *why* a presentist ontology is incompatible with the asymmetry of fixity. All A-Theorists, presentists included, believe that there is a modal difference between, on the one hand, the present and the past, and, on the other, the future. They also all believe that there is an ontological difference between the present and the future. But, given the presentist's denial of past existence, she is unable to provide an account of the difference between past and future that *also* accounts for the difference between *present* and future. The only ground the presentist can offer for the latter is an ontological one, but then she must withdraw this ground in trying to account for the former difference. Thus she is unable to fully capture the asymmetry.

B. A Presentist Rejoinder

There is one final response the presentist might make to this last objection. She might claim that though the past and future are unreal, propositions about past events admit of truth values, while propositions about future events do not. The thought would be that an asymmetry in the application of bivalence to propositions about past and future events is what grounds the asymmetry of fixity. This solution would escape the above objection by providing the same ground *both* for the difference between past and future, *and* for the difference between present and future (given that propositions about the present are also

[12] Although Horwich does not think that time itself has any intrinsic asymmetry, he does think that our experience of asymmetry results from such irreversible processes as entropy, and that these processes, in turn, are explained by big bang cosmology.

bivalent). Of course, this move would not be open to Craig, since he endorses bivalence for all propositions (Craig 2001: 40-1). Furthermore, I am unaware of any presentist who *would* endorse an asymmetry of bivalence in light of their endorsement of an ontological symmetry. Nevertheless, I had better explicitly say why the presentist should *not* endorse such a solution.

The suggested solution answers the question, 'What grounds temporal asymmetry?', by claiming that it is grounded in an asymmetry of bivalence: propositions about past events are bivalent, propositions about future events are not. This answer, however, can be interpreted in three different ways. EITHER i) the asymmetry of bivalence fundamentally grounds temporal asymmetry independently of temporal becoming, OR ii) the asymmetry of bivalence is more fundamental than the asymmetry of fixity, but is itself ultimately grounded in temporal becoming, OR iii) the asymmetry of bivalence *just is* temporal becoming, that is, temporal becoming consists in non-bivalent propositions becoming (and remaining) bivalent. Unfortunately for the presentist, none of i) through iii) are satisfactory answers to the question. If i) is the correct interpretation, then the objection from the previous subsection applies (since, for the A-Theorist, the asymmetry cannot be independent of temporal becoming). If ii) is the correct interpretation, then there is a glaring inconsistency in the suggested hierarchy of dependence. As we have seen, for the presentist, temporal becoming involves the continual creation and annihilation of events, so in order for temporal becoming to ground the application of bivalence in a logically consistent manner, only propositions *about the present* could be bivalent. And then, of course, we lose our asymmetry. Finally, and for similar reasons, if iii) is the correct interpretation then the inconsistency becomes an incoherence; since we are now asked to *identify* a temporally asymmetric

notion (propositions becoming, and remaining, bivalent), with a temporally symmetric one (events becoming, but *not* remaining, real). Thus an asymmetry of bivalence would also fail to provide the presentist with a ground for temporal asymmetry.

IV. The Existence of the Past

A. The Assertion of Ontological Asymmetry

Though we have been unsuccessful in vindicating the hierarchy of dependence that Craig offered us, surely there are some aspects of the hierarchy that we can salvage. None of the preceding conclusions have brought into question the dependence of past traces in the present on the unidirectionality of causation. Further, we have seen that it is an attractive, though not mandated, view for the A-Theorist to hold that the latter is dependent, in turn, on the unidirectionality of temporal continuing. Indeed, it is likely that these two temporal features are what constitute the unidirectionality of time itself. But, crucially, we have seen that none of these members of the hierarchy determine the asymmetry of fixity, and that it is more likely that the latter is what grounds all of them. What of temporal becoming? As we saw, Craig sees all these asymmetries as ultimately grounded in temporal becoming. But his conception of becoming, that of the continual creation and annihilation of events, is one that is stipulated in order to accord with the presentist's doctrine of non-existent past and future. So this particular conception of temporal becoming is going to be just as unsuccessful in constituting the asymmetry of fixity as the other suggestions were.

I take our failure, here, to reconcile presentism with the intuition that the past is fixed and the future not, as a failure of presentism in general. For the A-Theorist, there must be some feature of time that can account for a robust asymmetry of fixity, and for the other asymmetries we have discussed, and the presentist cannot provide us with one.

I would now like to make a suggestion as to what that feature might be. As I have indicated, I agree with Craig that the ultimate ground of temporal asymmetry must lie in the nature of objective temporal becoming, but surely the presentist's rendering of this concept is not the most intuitive one. The term 'becoming' implies only creation, not annihilation. A more satisfactory rendering would be that events *become* real in the present and remain real thereafter. This more natural conception of temporal becoming then provides us with the immediate ground for the asymmetry of fixity: the past is different from the future because the past exists and the future does not. So, *pace* the presentist, the difference between past and future *is* an ontological one, and this difference, based as it is on a non-presentist conception of temporal becoming, fundamentally constitutes temporal asymmetry.

One can imagine the presentist at this point saying, 'OK, suppose, for the sake of argument, I acknowledge that you're onto something here with your objection to my ontology. Then, can you explain to me how, or in what way, the past exists?' This is an important challenge for me. Would I respond by saying that past events like World War I *still* exist? Or would I claim that though these entities do not exist in the present, they exist eternally and are indexed to times that are, for us, now past? Given that I am an A-Theorist who wishes to affirm—with the presentist—the dynamic nature of time, neither of these answers seems very promising for me. When events cease, they no longer exist—*unless* they exist eternally. And if they exist eternally, then what has become of the A-Theorist's dynamic conception of time? On the other hand, if past existence does not involve eternal existence, then perhaps it simply involves the present existence of items that in some way relate to the past. But this is precisely the presentist's story! So now what has become of my distinctive view—one that purports to navigate between the

extremes of presentism and eternalism? It seems that such challenges require me to offer an account of past existence that satisfies the following two desiderata: i) the account must differ substantially from the presentist's account, and ii) the account cannot imply a B-Theoretic ontology, according to which events exist eternally. It is my purpose in this final section to make a first approximation at such an account. I will provide a more detailed sketch of the account in the Epilogue.

I will take Robert Adams' suggestion about the existence of the *thisnesses* of past individuals as the starting point of my account. In his (1979), Adams argues for the existence of thisnesses, where a thisness of x is the property of being x or the property of being identical to x. In his (1981), however, he argues that there are no thisnesses of non-actual individuals. Finally, in his (1986), he takes these conclusions as his starting point and discusses the relation between thisness and time, arguing that there are no thisnesses of individuals that *will* exist, but that do not exist *yet*. After offering this argument, he then considers whether it also implies that the thisnesses of past individuals do not exist, and concludes that it does not. In trying to develop an account of past existence that satisfies our desiderata, I first want to consider Adams' arguments in this context, as well as some subsequent presentist responses to them due to Kvanvig and Craig.

B. Background Arguments

Adams' argument for the thesis that the thisnesses of future individuals do not yet exist is based upon the following principle, which I shall refer to as the Openness Principle (OP):

> (OP) For any beings x and y and time t, if x existed before t or exists timelessly, and y exists contingently and comes into existence at t, then it would be metaphysically possible for x to have existed even if y had never existed. (Adams 1986: 317)

So, for example, Adams was born in 1937, but in 1935 it was still open whether he would ever be born. So in 1935 there existed possible continuations of the actual history of the

world in which he never comes into existence. Thus, even given everything that existed—and had existed—up until 1935, the existence of each of those entities is perfectly compatible with Adams' never having existed. But, of course, the existence of his *thisness* is not compatible with his never having existed (given the thesis argued for in Adams (1981)), so his thisness cannot be among those things that existed in 1935 (or at any time before his coming into existence). Adams acknowledges that the force of his argument 'rests on an intuition that the future … is metaphysically open in a way that the present and past are not' (Adams 1986: 318). And, further, that the kind of metaphysical openness that (OP) specifies can only obtain in a world in which many events are not causally determined. He does not argue *for* the openness of the future or indeterminism; he is, rather, content to identify his intended audience as those who share these intuitions.

Adams does, however, consider the following objection to (OP). Take a person, e.g., Montgomery Furth, who was born before Adams: could Furth have existed in 1935 if Adams did not later come into existence? Intuitively, we want to say that he could have existed, but could *the person born before Adams was born* have existed? The idea being that a person born before Adams, logically speaking, could not have existed if Adams were never born. But of course, as Adams points out, though Montgomery Furth has the property of being born before Adams in the actual world, he does not have this property in the possible world in which Adams is never born; and so while Furth could have existed if Adams were never born, he could not, in that case, have been the person that was born before Adams. What about *Furth's living* (in 1935) *before Adams was born*? Is this an entity that could be said to exist in 1935, and which therefore is incompatible with Adams' never having existed? Even allowing that such an entity is the type of thing that admits of existence, Adams suggests that this existent is simply

reducible to *Furth's living in 1935*, 'characterized in terms of a relation that it, in fact, has but that it could have lacked' (*ibid.*: 317-8). And *Furth's living in 1935* is certainly compatible with Adams' never having existed. If the offending existent is something more than this, then Adams claims that it must express a cross-temporal relationship that could not have existed prior to his birth.

Having given what he acknowledges is a modest defense of (OP) and the thesis it supports, Adams goes on to consider, on behalf of the objector, 'whether the same things I am saying about future things that do not yet exist should not also be said about past things that no longer exist' (*ibid.*: 319). He invites us to think of an example of a past individual that no longer exists (such as a particular pain), and letting that individual be *i*, he has the objector run the analogous argument to the one against the existence of future thisnesses:

> Surely everything that now exists could still have existed—numerically, and not just qualitatively, the same—even if the history of the world before now had been very different—in particular, even if *i* had never existed. So if the thisness of *i* is among the things that exist now, it could have existed even if *i* had never existed. Since you deny the latter, you should also deny the former. (*ibid.*)

But, of course, this argument violates our intuitions regarding the asymmetry between past and future. It seems far more plausible to claim that no presently existing entity depends logically or metaphysically on future occurrences, than it does to claim that no such entity depends logically or metaphysically on past occurrences. For this reason, Adams rejects the above argument. He does, however, acknowledge that if the thisnesses of non-present individuals have the individuals themselves as essential constituents, then the thisnesses of individuals who have ceased to exist (or, of course, who have yet to come into existence) must also be non-existent. In this case, we would have to claim that the thisnesses of past individuals, though non-existent, are nevertheless *available* to us. So we would express the asymmetry between past and future thisnesses

as one of availability: the thisnesses of both past and future individuals do not exist, but they are available in the case of past individuals, whereas they are not in the case of future individuals. Adams does not say much more about this possibility, but I take it that he believes that thisnesses *do not* have the individuals themselves as essential constituents, and therefore affirms the existence of past thisnesses.

Kvanvig (1989) argues that Adams' defense of the thesis that the thisnesses of future individuals do not yet exist is defective in a way that is analogous to the defectiveness of fatalistic arguments. The fatalist argues, according to Kvanvig, that if a person S does a certain action A, and if it has always been the case that S would do A, then S could not have failed to do A. Kvanvig claims that the correct response to this argument is to posit a limited counterfactual power over the past: if S does not do A, then the past is simply different from what it otherwise would have been. In doing A, S exercises her power of free will and makes it the case that a certain fact has always been the case; namely, S's doing A. According to Kvanvig, this is not to be construed as a power to change the past, since it is only a power over what has always been the case. Thus the unidirectionality of causation and the fixity of the past are secure. Kvanvig then claims that this reply to the fatalist provides an analogous reply to Adams' argument. Although there are no thisnesses of non-actual entities, 'the fact that an entity exists brings it about that there always has been a thisness for that entity ... [and so] brings it about that the past is different from what it otherwise would have been' (Kvanvig, *op.cit.*: 290).

Kvanvig also objects to Adams' claim that his thesis about the non-existence of future thisnesses is motivated by actualism and intuitions concerning the metaphysical openness of the future (in contrast to the closedness of the past). For, Kvanvig claims, if

presentism—the temporal analogue of actualism—is as plausible as its modal analogue, and if Adams is correct about the non-existence of future thisnesses, then the analogous claim about the non-existence of past thisnesses is equally plausible. In other words, the motivation for believing that future thisnesses do not exist cannot be the intuition that the future is open, because if presentism is true, the past participates in the very same metaphysical openness.[13] Why should Adams think that presentism is true? Because he is a modal actualist, and as we saw Craig argue in Section I, the appeal of presentism is supposed to mirror the appeal of actualism. But, of course, Adams does not think presentism is true[14], and devotes a section of his paper to saying why he thinks the appeal of actualism does not carry over into the temporal case. Rather than discussing that aspect of the exchange between Adams and Kvanvig, however, I would like to stick to the above two objections and Adams' responses to them. These two objections, one against the non-existence of future thisnesses and one against the existence of past thisnesses, have the most bearing on the existence of the past, the issue that is of central concern to us at the moment.

In his (1989), Adams replies to Kvanvig's paper. In response to the objection from the anti-fatalistic argument, Adams acknowledges the philosophical respectability of Kvanvig's position in the context of fatalism, but claims that the response does not necessarily apply when adapted to address the thesis about the non-existence of future thisnesses. The implication, according to Adams, of Kvanvig's response to the fatalistic argument is that 'things can be true about a time that would not have been true about it if (as was possible) things had gone differently at a later time' (Adams, *op.cit.*: 300).

[13] Although Kvanvig does actually say this, it does not seem like something the presentist should want to say. See below, this subsection and the next, for further discussion of this point.

Adams agrees with this implication, but denies that it is inconsistent with his claim in (OP), which was 'that whatever *exists* in the history of *w* up until *t* must be metaphysically compatible with any possible continuation of that history after *t*' (*ibid.*). And, although the objector might claim that the existence, in 1935, of *Furth's living before Adams was born*, is incompatible with Adams' never being born; we can reduce such existents to ones, such as Furth or Furth's living, 'that depend on later events for some of their *properties*, but not for their *existence*' (*ibid.*, my emphasis). I take it that Adams' thought amounts to the following: though it may be the case that past truths counterfactually depend upon future free actions, this does not imply that *actual* past existents metaphysically depend upon future existents: since it is open whether any contingent future entity will exist, but it is not open whether actual past existents *did* exist. So, Adams can embrace Kvanvig's anti-fatalistic response while resisting the analogous application to the existence of future thisnesses.

As for Kvanvig's claim that Adams, if committed to the non-existence of future thisnesses, should also be committed to the metaphysical openness of the past; Adams responds by pointing out that presentists should not 'ascribe to the past "the very same openness" that I am inclined to ascribe to the future' (*ibid.*). The metaphysical openness of the past consists in 'the compossibility of the actual present with a plurality of alternative futures', but presentism does not imply 'that the actual present is compossible with a plurality of alternative pasts' (*ibid.*). I think this is the right response to Kvanvig, but it is interesting that he seems to blur the distinction—a distinction that the presentist requires—between existence/non-existence, on the one hand, and fixity/non-fixity on the

[14] Not surprisingly, given his asymmetrical ontology of thisnesses, Adams thinks the past, but not the future, exists. He says 'our quantifiers should be understood as ranging, at least, over past as well as present things' (Adams 1986: 322).

other. I have been arguing that the asymmetry of fixity is fundamentally constituted by an asymmetry of ontology, and that the presentist must deny this while still offering a satisfactory account of what constitutes fixity (*and* that she is unable to do so). Kvanvig, however, simply seems to bite the bullet and agree with me that fixity is constituted by ontology. At least, that would seem to be the implication of his claim that the past is open in the same way the future is. And yet, in the passage about counterfactual dependence of past upon future, he affirms the fixity of the past. I have more to say about this seeming inconsistency and other aspects of the debate thus far, but before embarking upon a more in depth commentary, I would like to cover an extension of this debate that can be found in Craig (1997b) and Adams (1997).

Craig offers a defense of Kvanvig's anti-fatalistic response to Adams. Recall that Adams sidestepped that response by claiming that all it shows is that past truths can counterfactually depend upon future events, but not that past entities might somehow depend upon future entities for their very existence. Craig describes a scenario involving time travel which purportedly provides a counterexample directly to the latter, and thus to (OP) itself. The scenario has us consider a time traveler who departs some time after t and arrives some time before t. Craig claims that at time t there are two subsets of metaphysically possible continuations after t: those that include all actual events prior to t in their history, and those that include merely possible, but not actual, events prior to t. It is the former sort that Adams exclusively has in mind for his 'possible continuations'. It is the latter sort, however, that Craig points to as providing a counterexample to (OP). So, although the actual continuation from t includes the departure of the time traveler, it is still possible at t that the time traveler not depart, in which case the history prior to t would be other than what it is. Given the time traveler's arrival in the actual history, it is

epistemically certain that she will depart after *t*, but it is not metaphysically necessary that she do so. Thus, although it 'is a necessary truth that the actual future is a continuation of the actual past, ... it does not follow that every possible future is a continuation of the actual past' (Craig, *op.cit.*: 403).

Craig also questions what he calls 'Adams's artificial bifurcation between entities and facts or truths' (*ibid.*). He argues that if tense is an objective feature of reality (which both he and Adams believe it is), then tensed facts are as much a part of the world's ontology as are other entities. Further, Craig claims that if future contingent propositions are bivalent, then the correspondence theory of truth requires that they correspond to future-tense states of affairs that obtain presently. According to Craig, this position—coupled with Adams' claim that every possible future is a continuation of the actual past—yields fatalism. Thus, in order to avoid fatalism, we must allow that possible future continuations include those that contain non-actual past-tense states of affairs. Craig is not altogether clear at this point, but I assume his concern is that if possible continuations after *t* can only contain the actual history prior to *t*, *and* if that history is one in which not only *facts* about the future obtained, but also their corresponding *states of affairs*, then it is impossible for an agent to have any effect on the previously obtaining but yet to be instantiated states of affairs.[15] So, concludes Craig, the anti-fatalistic argument does provide a valid objection to (OP).

Adams' direct responses to Craig's objections are rather brief, though he does take the opportunity to embark on an interesting commentary of Lewis' (1976) discussion of the paradoxes of time travel. The brief and direct responses, however, will suit our

[15] This seems to be a version of the fatalistic argument from temporal necessity, and since I think that that argument can be defeated by what I take to be a very *natural* bifurcation between propositions and events (or states of affairs), I do not find Craig's argument here convincing. See Chapter 3, Sections III.E. and IV.

purposes here. With respect to Craig's counterexample involving the time traveler, Adams more or less dismisses the possibility of there being alternative futures at *t* that are inconsistent with events that have transpired prior to *t*. What, he asks, can it mean for such alternatives to *still* be possible *at t*? According to tenseless possible worlds semantics, there are certainly indefinitely many possible worlds in which the time traveler never departs and never arrives, but 'what can it mean to say that such a history is still possible *at t* when the time traveler has already arrived?' (Adams 1997: 409). As soon as possibility claims become tensed, Adams can only make sense of them if phrased in terms of his definition of 'possible continuations'.

He also questions Craig's requirement that future tense propositions with determinate truth values must correspond to something that is intrinsically present. We normally think of propositions about the *past* as having determinate truth values, and yet we need not believe that such propositions require an intrinsically present ontological basis. Propositions about the Battle of Waterloo, for example, have as their ontological basis 'something that was a battle and that does not exist now and is not occurring now' (*ibid.*: 407-8). So, by parity of reasoning, true future tense propositions are true now in virtue of 'correspondence with things that will occur in the future, not with things that are occurring now' (*ibid.*: 408). Since Adams does not accept Craig's ban on cross temporal correspondence between propositions and entities, he can continue to hold that there exists nothing in the present which depends upon future entities for its existence, and therefore also hold—without fear of fatalistic implications—that the only possible continuations *from t* are those that contain the actual history *prior to t*.

C. Commentary

I take Adams' thesis about time and thisnesses—call it the Time and Thisness Thesis (TTT)—to offer an attractive picture of how it is that the past exists while the future does not. Unfortunately for the present discussion, however, Adams does not spell out how such a picture can satisfy the desiderata that we are pursuing. Of course, Adams is more concerned with offering an account of reference that reflects his temporally asymmetric ontology, than he is with defending and explicating that ontology. Nevertheless, if the proponent of a dynamic conception of time posits an asymmetry of ontology, then she would do well to offer an account of that ontology that satisfies the proffered desiderata. Adams' failure to do so leaves him open to Kvanvig's and Craig's objections. In what follows, I will try to clarify the issues in the debate, but will also be hypothetically continuing it in a way that is highly speculative; such speculation, however, will provide fertile ground for sketching an account of past existence that satisfies our desiderata.

I want to start my commentary by going back to Kvanvig's objections to Adams. As we saw, he objected to Adams' argument for the non-existence of future thisnesses, as well as to Adams' argument for the *existence* of past thisnesses. We would do well at this point to consider Kvanvig's motivation for his attacks, and the dialectic of his paper in light of that motivation. At first sight, given the presentist ontology, one might find it odd that a presentist would try to attack an argument for the non-existence of future thisnesses. Presentists, however, normally want to affirm that propositions about the future both exist and are bivalent, and one aspect of Adams' position is that if there are no thisnesses of future individuals, then there are also no singular propositions about those individuals. So I take it that Kvanvig is keen to affirm the existence of future thisnesses, while maintaining that such a claim does not imply that the future itself exists;

or, indeed, that the future is fixed. This is why he appeals to the anti-fatalistic argument in attacking Adams' position.

Analogously, then, he should also want to affirm the existence of past thisnesses. So why does he attack Adams' argument for that very conclusion? It cannot be the conclusion that he takes issue with, but Adams' motivation for the argument. Adams sees the openness of the future and closedness of the past as supervening on the ontology of thisnesses. Clearly, Kvanvig does not, and therefore questions Adams' move from open future/closed past to the non-existence of future thisnesses /existence of past thisnesses. Furthermore, given Kvanvig's seemingly inconsistent assertion that the past is both open and fixed, he must have a different definition of 'openness' than does Adams (or, indeed, most philosophers). The 'metaphysical openness' of the past and future must simply be synonymous with the non-existence of past and future (but, again, not the non-existence of past and future thisnesses). The asymmetry of fixity, then, must be something completely different from the asymmetry of openness, and thus must be grounded in something other than ontology. Only on this interpretation can Kvanvig be understood as espousing even a remotely internally consistent version of presentism.

So, according to Kvanvig's presentism, the past and future are non-existent and are therefore 'metaphysically open'. But this openness is only one of ontology, not modality: the past is fixed and the future is non-fixed. Furthermore, the thisnesses of past and future individuals exist, even though their existence depends upon the present existence of the individuals in question (i.e. depends upon the individuals *having* existed presently (in the past), or *going to be* existing presently (in the future)). So the present is ontologically basic. This interpretation of Kvanvig sheds light on Craig's defense of him. Craig's objection to OP was that it did not allow possible continuations of the history of

the world at t to include merely possible but non-actual histories prior to t. Such a limitation on the scope of possible continuations, according to Craig, has fatalistic implications. Why? Because of the ontological priority of the present: for Craig, all past and future states of affairs obtain in the present; just as for Kvanvig, the thisnesses of past and future individuals exist in the present. These theses not only reflect the presentist's ontology, but also allow for the bivalence of propositions about the past and (more controversially) the future.

The problem, however, with inferring fatalism from the conjunction of these theses and Adams' (OP), is that a non-presentist such as Adams would have no reason to endorse the theses. Why would one believe that all tensed states of affairs obtain presently unless one believed that only the present exists? Similarly, why would one believe that there was a symmetry of ontology with respect to thisnesses of past and future individuals, unless one believed that there was a symmetry of ontology with respect to the past and future? Granted, for Kvanvig, the former symmetry is one of existence, while the latter is one of non-existence, but this is explained on our interpretation of Kvanvig's presentism. The point of the question is that if one thought there was an asymmetry of ontology with respect to the past and future (as Adams does), then it is doubtful that one would embrace a symmetry of ontology with respect to the thisnesses of past and future individuals, regardless of whether that ontology were one of existence or non-existence. So in spite of Kvanvig's and Craig's objections, Adams is under very little pressure to give up either (OP) or the thesis that the thisnesses of future individuals do not exist though the thisnesses of past individuals do.

Perhaps we can come to the aid of Kvanvig and Craig here, and suggest an objection that has strength independently of any presentist allegiances. In order to do so,

we should first ask what the real disagreement between the parties is—other than that Adams thinks the past exists and presentists do not. We should then try to formulate an argument on behalf of the presentist that starts from premises *shared* with Adams. The debate from this point will be speculative and hypothetical in nature, but will be no less instructive for that. If (my) Adams can resist the argument that we formulate on behalf of the presentist, then we will have cleared the first hurdle in vindicating TTT as an account of past existence. Though it is not explicit, I think the real disagreement between the two parties lies in the interpretation of existence claims about the thisnesses of non-present individuals. When Adams says that the thisnesses of past individuals exist and those of future individuals do not, I take him to mean that the past is real and exists and the future is not. When Kvanvig says that the thisnesses of *both* past and future individuals exist, I take him to mean that these thisnesses exist presently, but not that the past and future exist. So, initially, the real worry for Adams' TTT, in the context of offering an account of past existence, is that perhaps the existence of past thisnesses does not necessarily imply the existence of past times or events.

Taking Kvanvig as our representative presentist, how might he exploit this worry without begging the question against TTT? Recall that Adams (1986: 320) acknowledges that in order to affirm the existence of past thisnesses, he must deny that the thisnesses of individuals have the individuals themselves as essential constituents. Let us call the claim that individuals are essential constituents of their thisnesses the Essential Constituents Claim (ECC). Adams' point is that if ECC were true, then the thisnesses of individuals could not exist without the individuals themselves simultaneously existing; and he does not want to say that non-present individuals such as the Battle of Waterloo still exist, even though he does wish to say that that Battle's thisness still exists. Now,

since we are interpreting Kvanvig as affirming the existence of the thisnesses of non-present individuals, while denying the existence of those individuals themselves, he should certainly endorse Adams' denial of ECC. So, it is open to him to object that if ECC is false, then what motivation is there to infer from the present existence of past thisnesses the existence (present or otherwise) of past times or events?

To see the force of this objection, suppose an instantaneous past event E, having thisness E^*, occurred at t_0. Suppose, further, that it is presently t_1. Adams, I take it, would claim that though E does not exist at t_1 (i.e. presently), its past existence at t_0 can presently be affirmed on the basis of E^*'s existence at t_0 and at all times after t_0 (including t_1). Kvanvig, I take it, would claim that E^*'s existence at t_1 gives us no ground for positing the existence of E at any time other than when E is present. So at all times after t_0, the most we can say about E's existence is that it obtained when t_0 was present but not that it obtains in the past. The question now is, independently of one's belief about the existence of the past, which of these inferences from the agreed present existence of E^* is more plausible? In light of Adams' denial of ECC, Kvanvig could argue that it is more plausible to infer the non-existence (*simpliciter*) of E rather than the (qualified) past existence of E. This is because they both agree on the following three premises: i) E does not currently exist at t_1, ii) E^* does exist at t_1, and iii) E is not an essential constituent of E^*; so what further premise would Adams offer for E's past existence?

Though this line of objection is open to Kvanvig, I do not think it would prove successful, for there *is* a further premise Adams could make use of (though he does not explicitly use it in this way). It is a premise we have already seen in his response to Craig, and it initially comes in the context of his objection to the presentist ontology. He

claims that the ontological basis of 'the fact that an important battle was fought at Waterloo on June 18, 1815 ... is, or includes, something that was a battle and that does not exist now and is not occurring now' (*ibid.*: 322). Adams grants that this claim rests on intuitions, but they are not intuitions specifically about whether or not the past exists, so this is not a question begging response; they are intuitions about what must be part of the world's ontology in order for a fact or state of affairs to obtain—and also, I take it, in order for the *thisness* of a fact or state of affairs to exist. The Battle of Waterloo does not exist presently, but its thisness does, and therefore it would appear that ECC is false. But, unless you are a presentist, the present non-existence of an entity does not rule out the existence of that entity at some time other than the present; and, Adams would say, if you agree with the presentist that it does, then you owe some account of how a fact about a past event or the thisness of that event can exist without anything in the world (present or otherwise) to ground it.

To be fair to Kvanvig, he does offer such an account. He claims that present truths about a past event are explained by an event type—where this is conceived of as a universal or a property—of which the past event was a token, and 'which *now* has the property of having been instanced in the past ... ;further, this event type is not now and never was an actual [event]' (Kvanvig 1989: 297, his emphasis). But this is a strange claim, as a token of a type is normally conceived of as a specific instance of a general concept, and there is nothing general about, for example, the Battle of Waterloo type. Furthermore, this solution does not fulfill the requirement for an ontological ground, it just inserts an additional level. We now want to know, what is the ontological basis for the event type, other than something that was a battle? So if one shares the intuition that

such entities as facts and thisnesses require an ontological basis, then one is still going to be dissatisfied with the presentist's account.

Does the requirement for an ontological basis conflict with Adams' denial of ECC? I think not, because it seems that E can be the ontological basis of E^* without being an essential constituent of it. To judge definitively whether this is the case would require an analysis of the notion of essential constituent (as well as ontological ground), something which Adams does not provide and which I will not attempt here. Intuitively, however, it is plausible to maintain that essential constituency is a relation governed by the following conditional: if x is an essential constituent of y, then if y exists now, x must exist now.[16] But, *prima facie*, is there any such simultaneous existence requirement for x's being the ontological basis of y? Why would one hold that in order for x to be the ontological basis of y, both x and y must exist simultaneously? Suppose that God exists and is timeless, and is the sustainer of all things; then here we have a logically coherent example of an ontological basis that is clearly not simultaneous with all that it is the basis of. So, while the presentist might try to argue that the requirement for an ontological basis conflicts with Adams' denial of ECC, I am hard pressed to see that such an argument would go beyond a brute appeal to a presentist ontology.

D. Desiderata Satisfied?

So Adams' account has survived its initial clash with the presentist. But what of our desiderata? To remind the reader, the two desiderata we would like our account of past existence to satisfy are i) the account must differ substantially from the presentist's account, and ii) the account cannot imply a B-Theoretic ontology, according to which

[16] It is interesting to note here that because the relation is not necessarily symmetrical, the converse does not hold. That is, y need not exist now in order for x to exist now. For example, perhaps roundness is an essential constituent of a wheel, so a wheel cannot exist now without roundness existing now; but, of

events exist eternally. As to i), it seems there *is* a real disagreement between Adams and the presentist, since they differ as to the ontological implications of existence claims about the thisnesses of past individuals. Thus it looks as if we have satisfied our first desideratum. But can we satisfy the second? How can Adams' TTT avoid the charge that it implies the eternal existence of past events? Kvanvig thinks the only obstacle to endorsing *his* view, namely, the view that what explains present truths about the Battle of Waterloo is 'not (now) something that ... was (then) a battle,' is the wearing of 'eternalist-colored glasses' (*ibid.*: 294, 297). I will now suggest a way that Adams might respond to this charge.[17]

My interpretation of Adams had it that the past exists and provides the ontological basis for the present existence of the thisnesses of past individuals. Obviously, as we saw, the former existence claim is not to be construed as present existence. Nor, however, can it be construed as eternal existence indexed to a past time. Such a picture would allow that the Battle of Waterloo eternally exists at a past time, and this *does* involve the viewing of the Battle of Waterloo through 'eternalist-colored glasses.' But we are not compelled to take such a view. Prior to the existence of an individual x, there exists no corresponding thisness of x. From the first moment of x's existence, throughout the entire period of x's existence, and for (presumably) as long as time lasts, x's thisness exists. I suggest that the thisness's simultaneous existence with the individual that serves as its ontological basis, *and* its simultaneous existence with entities at all times after the individual's demise, is precisely the cross temporal bridge that Adams requires to maintain that the past exists even though past events no longer exist. So there is not a

course, roundness can exist now without a wheel existing now. For this reason, we may agree with Adams that E is not an essential constituent of E^*, while still claiming that E^* is an essential constituent of E.

[17] On his own behalf, Adams responds to this charge by claiming that he is not conscious of being an eternalist, but that it would 'be hard to prove conclusively' that he is not (Adams 1989: 301).

battle eternally located at the spatiotemporal region picked out by 'Waterloo on June 18, 1815'. But there was a battle that occurred there, and even though that battle no longer exists (presently), it is part of the world's ontology and is manifested as such in the existence of its thisness from 1815 until the present. Thus we *do* have an account of how the past exists, and one that does not require us to view the past through 'eternalist-colored glasses'.

Though I think this account has some merit, there is a potential worry. In trying to provide an account that avoids the B-Theoretic implications of an existent past, have we not failed, after all, to satisfy our first desideratum? Recall that the presentist has a story to tell that makes her nihilism about the past more palatable. Present existence is just existence *simpliciter*, so past events do not exist *simpliciter*, but they did exist when they were present, and it is only in this derivative sense that the past exists. So it is open to presentists to make a similar appeal—in accounting for a sense in which the past exists—to the present existence of the thisnesses of past individuals.[18] I suppose the thought would be that the presently existing thisness of a past event is derivative from the (non-existent) event itself, and hence vindicates a presentist ontology without reducing past events to 'false stories'.[19] Perhaps, then, it is merely a matter of semantics that what I am calling 'existence' the presentist is calling 'derivative existence', and that when I say the thisnesses in question exist 'at all times after the individual's demise', the presentist says 'existed when those times were present'. If this is right, then it appears that in trying to avoid the B-Theoretic implications of an existent past, I have failed to provide a real alternative to the presentist's account.

[18] Of course, the presentist tells the same story about future events, which, I imagine, is why Kvanvig also wished to affirm the existence of the thisnesses of future individuals.
[19] This is Lewis' characterization of past and future events on a presentist ontology (Lewis 1986: 205).

I want to end this chapter with a suggestion as to how one might successfully navigate between these two extremes, and so avoid this line of objection. The presentist stipulates that present existence is existence *simpliciter*, while the B-Theorist claims that *all* events exist *simpliciter*. The presentist stipulation is supposed to be highly intuitive, since we experience the present directly, and nothing could be more real than the objects of direct experience. But the specious present is notoriously vague and indeterminate. How do we define the present moment, and so designate present events? It seems the only way to do so is by ostension, but no sooner do we utter, "*This* is the present moment", than the token of that utterance becomes false. By definition, present events are indeterminate, since there can be no complete description of any event while it is yet present. Consider, further, that if the past is real, and the future is not, then so called present events have temporal parts that lack a concrete reality; since they have not yet fully occurred. But this idea, that there concretely exist events with an incomplete reality, hardly seems coherent.

Do we think that reality admits of such indeterminacy, or is reality constituted by determinate events? If the latter, then I suggest we stipulate that *past* existence is existence *simpliciter*. Events are determinate and complete entities that have been fully actualized, and thus the only events that exist *simpliciter* are past events. Since I take it that what exists, must be determinate, and since so called 'present' events are not determinate, I don't believe that they exist.[20] This is not to claim (as the presentist does about the past) that the present is unreal. The present does not designate a temporal region at all, rather, it is the ever shifting boundary between what is real (the past) and what is unreal (the future). On this picture, there is no such thing as a 'present' event.

[20] I grant that some work is required here in order to accommodate instantaneous events. See the Epilogue.

This account not only provides a substantially different ontological picture than the presentist's, but it also allows us to retain, with some adjustments, aspects of our earlier account in satisfying the second desideratum: though all events exist *simpliciter*, all events are past, and have *come into existence*, and are therefore not eternal. Past events exist, and that existence is manifested in the existence of their thisnesses at all times subsequent to their having been fully actualized. Now, there are two qualifications I need to make regarding this proposal. The first is that, though the use of the verb 'exists' here must be a tenseless one, this does not imply that events tenselessly occur, since the verb applies only inasmuch as the events have *come into* existence. So past events exist tenselessly *from* a point in time.[21] Secondly, in claiming that past events exist *simpliciter*, I am claiming that they are the only entities that are, without qualification, worthy of the term 'event' (given their complete reality). The thought is that the fundamental mode of temporal existence is captured *not* by 'is' or 'is becoming', but by 'has become' or 'has occurred'. Given, then, that (past) events exist both tenselessly and temporally, their thisnesses seem the right sort of thing to manifest that existence, since they have also come into existence temporally (i.e. from a point in time), and then continue to exist, presumably, for as long as time lasts. Thus we can think of these thisnesses as the logical traces of the events that have given rise to them.[22] Though this 'pastist' approach to time is certainly unusual, it is one that provides precisely what we require. It allows us to embrace a robust asymmetry of fixity, firmly grounded in an asymmetry of ontology, *and* it allows us to do so without any eternalistic implications. We will take a look at this pastist approach to time in greater detail in the Epilogue.

[21] Another way to state this claim is that past events exist tenselessly *at* a point in time, but with the qualification that they did not always do so.

Conclusion

And so we come to the end of Part I. In this part of the thesis, we have seen that in order to account for the intuition that guides us throughout, we must endorse an A-Theory of time according to which only past events exist. In Part II, we will look at another commonly cited threat to the guiding intuition, namely, determinate truth about the future. Since the timeless and universal application of the laws of logic also has a significant amount of intuitive appeal, we will endeavor to affirm such an application without compromising a robust asymmetry of fixity.

[22] Again, more work is required here. Obviously, in order for this revised account to remain consistent, I must replace the earlier claim that the thisnesses of past events exist *presently*, with some other claim; and it is not clear what that claim should be. See the Epilogue.

PART II

TIME, FIXITY, AND TRUTH

CHAPTER 3

ANTECEDENT TRUTH, TEMPORAL NECESSITY AND LOGICAL FATALISM

Introduction

In Part I, we saw that in order to retain our intuition that there is a robust asymmetry of fixity between past and future events, we had to endorse a conception of time grounded in i) objective temporal becoming and ii) an asymmetry of ontology according to which the past exists (*simpliciter*) and the future does not. We also saw that, inasmuch as neither the B-Theory nor a presentist A-Theory are grounded in both i) *and* ii), they are a threat to the intuition. Are there any other threats to the intuition? In the Introduction to the thesis, I argued that fatalism might prove a threat to the asymmetry of fixity, but that this depends upon the category of fatalism, as well as the specification of fixity, under consideration. I also argued, however, that if *logical* fatalism obtains, then it would threaten the non-fixity of the future regardless of how we specify the ground of fixity. Thus, though we have concluded that the asymmetry of fixity is grounded in an asymmetry of ontology; nevertheless, if the laws of logic yield fatalism by fixing events involving human agents, then it is likely that they also fix all events. Given this potential threat to the asymmetry of fixity, then, we had better see whether we can retain both the guiding intuition as well as classical logic. Accordingly, in this chapter and the next, we will be evaluating two different types of argument for logical fatalism.

Let me begin the discussion in this chapter by making a distinction between my use of two different terms. By the 'logical determinateness' of a proposition (or class of propositions), I refer to the application of the law of identity, law of non-contradiction, and law of excluded middle (where the latter is interpreted as implying the principle of bivalence) to the proposition(s) in question. I will refer to the doctrine according to

which all propositions are timelessly and universally logically determinate as Universal Logical Determinateness (ULD). This doctrine is meant to exclude recourse to neutral, indefinite, and indeterminate truth values.[1] It also naturally goes hand in hand with the view that truth *simpliciter* is the fundamental notion of truth, rather than truth at a time. If propositions have their truth values *simpliciter*, then even truths *about* a time are not, properly speaking, true *at* that time (or any other)—they are eternally true (i.e. true irrespective of one's temporal perspective). In any event, throughout this chapter and the next, I will be assuming that the proponent of ULD does indeed embrace truth *simpliciter*, and that she therefore affirms the immutability of truth.

By 'logical fatalism', I intend the doctrine that the truth of ULD implies that future events are fixed in the same way that we intuitively take past events to be. So the proponent of ULD claims merely that there is a logical symmetry between past and future, whereas the logical fatalist claims that if there is, indeed, such a logical symmetry, then it follows that there must also be a symmetry of fixity, according to which both the past and the future are fixed. I also should note that throughout the discussion in this part of the thesis, I will be assuming the generic form of the A-Theory (if not my pastist version). This begs no questions against the logical fatalist, since, arguably, the traditional context in which the fatalist/anti-fatalist debate took place was one in which temporal becoming and the non-existence of the future were assumed.[2]

Although the case for logical fatalism has been made by employing many different arguments, they generally fall under two *types*: those from antecedent truth

[1] I wish to exclude these potential solutions to the problem of logical fatalism, not because I have an argument to show that they are unsuccessful, but because some of them are, in part, motivated by the fatalist's arguments; if those arguments are invalid, however, then such moves are not well motivated (at least not in the temporal case).

value (Type I, hereafter), and those from temporal necessity (i.e. the necessity of the past) (Type II, hereafter).[3] Among contemporary philosophers, it is generally thought that the Type I argument is easily refuted, and that the Type II argument poses the real threat to the non-fixity of the future.[4] We shall see for ourselves whether the conventional wisdom regarding these argument types is sound. In this chapter, I will first offer an explication of the two argument types (Section I), then provide an analysis of the concept of temporal necessity, drawing upon both historical and contemporary accounts (Sections II and III), and then offer my own analysis of the concept (Section IV), before concluding with some recommendations for the anti-fatalist.

I. The Arguments for Logical Fatalism

The Type I argument has its origins in Aristotle[5], who employed it not to demonstrate the truth of logical fatalism (which he took to be absurdly false) but—according to the standard interpretation—to demonstrate the *falsity* of ULD. On this interpretation, Aristotle accepts the inference from ULD to logical fatalism, and therefore denies the former with respect to future contingent propositions. The argument is normally interpreted by its *detractors* as involving a very obvious and notorious modal fallacy. According to this interpretation, a somewhat simplified version of the argument would run as follows (letting p = 'Susan will go to Anstruther at t')[6]:

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[2] Perhaps with the exception of Aquinas. See Section II.A., below. As to the coherence of the view that future events are non-existent even though propositions about them are logically determinate, see the Epilogue.

[3] I should note that in Diekemper (2004), I transpose the referents of 'Type I' and 'Type II'.

[4] For example, Craig (1988a: 135-6), Plantinga (1986: 237), Sorabji (1980: 91), and Zagzebski (1991: 12), specifically reject Type I as less plausible than Type II; and Craig (1986), Freddoso (1983), and Plantinga (1986) expend considerable and not entirely successful efforts in refuting Type II. See this chapter, Section III.

[5] See Aristotle (1968).

[6] Here, and in the Type II argument below, I attribute tensed propositions that are true at a time to the logical fatalist. I take it that the logical fatalist can make use of such propositions without betraying his allegiance to truth *simpliciter*. Though p does change in truth value over time (it becomes either false or meaningless after t), according to ULD, its corresponding tenseless proposition does not. Of course, not all

(1) $p \vee \sim p$ (Law of Excluded Middle)

(2) $\Box(p \supset p)$ (Law of Identity)

(3) $p \supset \Box p$ (From (2))

(4) $\Box(\sim p \supset \sim p)$ (Law of Identity)

(5) $\sim p \supset \Box \sim p$ (From (4))

(6) $\therefore \Box p \vee \Box \sim p$ (From (1), (3), and (5))

So, the antecedent truth of a proposition about the future implies the necessity of that proposition, and therefore also the necessity of the corresponding event. The reader, of course, will readily catch the obvious scope fallacy in the moves from (2) to (3) and (4) to (5); for, although the conditionals in (2) and (4) are necessary, this necessity does not attach to the consequents of those conditionals, as the fatalist wants to infer in (3) and (5). It is the difference between the claim that 'Necessarily, if it is true (now) to say that Susan will go to Anstruther, then Susan will, indeed, go to Anstruther'; and 'If it is true (now) to say that Susan will go to Anstruther, then *necessarily* Susan will go to Anstruther'. The former proposition involves a wide scope necessity and is trivially true, the latter involves a narrow scope necessity and does not follow from the former. So, if this is the move that the fatalist is really making, then the Type I argument is successfully refuted. For the moment, then, let us shelve Type I and see what force can be found in the (apparently) more prickly Type II argument.

In order to understand—and see the force of—the Type II argument, one must first have a basic understanding of the notion of temporal necessity. We will pursue a more in depth understanding in Sections II-IV, but for now the following brief description will serve to get us started. The notion can, once again, be traced back to Aristotle, who claimed that true propositions about the past admit of necessity, in that

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tensed propositions can be translated into tenseless ones without loss of meaning, but all of the ones I will

what is true of the past must henceforth remain true. So this is a temporally relativised notion of necessity, and it is constitutive of it that any proposition (or event) that admits of it did not always do so. Now, how does the fatalist make use of temporal necessity in his Type II argument? He does so in the following manner, letting p = 'At t_1 it was the case that at t_3 Susan will go to Anstruther' and letting q = 'At t_3 Susan will go to Anstruther' (where p and q are both uttered at t_2):

(7) $p \vee \sim p$ (Law of Excluded Middle)

(8) $\Box(p \supset q)$ (Logical consequence, given our example propositions)

(9) $\Box(\sim p \supset \sim q)$ (Logical consequence, given our example propositions)

(10) $\Box p \vee \Box \sim p$ (From (7) and the necessity of the past)

(11) $\therefore \Box q \vee \Box \sim q$ (From (8), (9), and (10))

This argument, unlike our Type I example, is not only valid, but it is also sound—if one accepts the necessity of the past. Given that p is a proposition about the past, its truth entails its (temporal) necessity, and its falsity entails its (temporal) impossibility. This is the justification for (10). The conclusion in (11) is not the product of a scope fallacy, but validly follows because the necessity of a conditional and the necessity of its antecedent jointly entail the necessity of the conditional's consequent. So whether Susan goes to Anstruther at t_3 or not, the truth of the matter is already necessitated, and thus she is fated to act one way or the other.

'Hold on one minute!', the objector will cry. 'You're claiming that the necessity of the conditional in (8), i.e. the necessity of logical consequence, modally licenses the fatalist to infer the necessity of q from that of p. But the necessity of p is *temporal* necessity, so how can an absolute type of necessity like logical consequence succeed in

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be attributing to the fatalist can.

transferring the relative type of necessity of which p admits to q? And just what type of necessity is it that q inherits in the transfer: absolute, temporal, or some hybrid?'

These are, of course, valid concerns. Some philosophers argue that q inherits the exact same type of necessity as that of p. Others argue that such a position completely violates the intuitive and conceptual underpinning of the notion of temporal necessity (given that pastness is meant to be constitutive of it). We will consider the range of views on these questions in Sections II and III. Regardless, though, of what subscripts are attached to the different necessity operators in the Type II argument, it seems to me that the transfer of necessity principle[7] upon which the fatalist relies cannot just be dismissed out of hand. What the Type II argument attempts to demonstrate is that, despite our intuitions, the necessity of the past, given ULD, *is* the sort of thing that can also apply to the future. So simply denying this without an argument is not a very satisfactory objection. Furthermore, irrespective of what type of necessity ends up attaching to q, the argument is worrying enough if q turns out to be necessary in any way. At any rate, for present purposes, I assume that the problem with the Type II argument does not *solely* lie in its reliance upon an admittedly unorthodox transfer of necessity principle.

II. Temporal Necessity: A Historical Perspective

So, according to the majority of contemporary philosophers, Type I fails and Type II threatens. How, then, do such philosophers propose to deal with the threat? Before answering that question, it will be instructive to look at a couple of historical accounts of temporal necessity. The two I have in mind are that of Aquinas and Ockham. Of course, these philosophers were concerned with *theological*, not logical, fatalism; whereas logical

[7] I borrow this term from Zagzebski (1991: 7).

fatalism infers fatalism from truth about the future, theological fatalism infers fatalism from God's omniscient *knowledge* of the future. We will see in Section III that, in the context of the Type II argument, given the additional issue of God's omniscience, theological fatalism does not just reduce to logical fatalism. Nevertheless, for most of the discussion in Sections II and III, we can treat the two different versions of fatalism as being of a piece.

A. Aquinas on Temporal Necessity

Aquinas' attempts to reconcile the contingency of (some) future events with God's eternal knowledge of those events can be found in several of his works: *Commentary on Aristotle's De Interpretatione, The Disputed Questions on Truth, Summa Theologica,* and *Summa Contra Gentiles*. These accounts are nicely amalgamated for an overall picture of Aquinas' position in Ch. 4 of Craig (1988b). I use Craig as my source for the ensuing discussion.

Craig begins his exposition of Aquinas' account by describing two different types of knowledge of non-existents which Aquinas attributes to God: knowledge of vision (*scientia visionis*) and knowledge of simple understanding (*scientia simplicis intelligentiae*). The former pertains to knowledge of things which, though they do not actually exist now, either once were, or will be, existent. The latter knowledge is speculative in nature and is of pure possibles—those things that might have been, or might be, but which never actually are. Knowledge of vision is so called because it is an apt metaphor for capturing Aquinas' view that God exists outside of the temporal series, which he 'sees' laid out before him in its entirety. Because God is outside this series, all positions along it are present to him. Aquinas uses the analogy of a circle to illustrate this point: the circumference of the circle is the temporal series, whereas the center point is

God. There is no relation of 'simultaneity' between any two points along the circumference, but the center point bears the same relation to all points along the circumference. This is not to suggest, however, that for God all events occur simultaneously; rather, he sees both the events as well as the temporal relations that hold between them. Aquinas claims that in the same way that a man upon a lofty watch tower can, in one glance, see the whole parade of travelers along the road below, so, too, can the succession of time be present to God without his *successively experiencing* it. As Craig explains, 'Each traveler corresponds to an event in time, and while a person standing on the road sees them passing by successively, the man in the watchtower sees all of them in a single moment' (Craig, *op.cit.*: 106-7). Not surprisingly, then, it is God's knowledge of vision that produces his knowledge of future contingents. In the remainder of this subsection, I will discuss three of the objections—and the respective replies—Aquinas considers to such knowledge, and then go on to make some remarks about his use of temporal necessity in this context.

First, Aquinas considers the objection that, as Aristotle has shown that future contingent singular propositions do not admit of a definite truth value, God cannot have knowledge of such propositions; for only true propositions can be known. Aquinas responds by acknowledging that future contingents are not determined while they remain future, but claims that God's knowledge of such propositions is based upon their becoming determinately true in the present. As Craig points out, this claim raises the difficulty of interpreting what Aquinas intends by 'determinate' truth. Craig argues, on the basis of a passage concerning the correspondence theory of truth in *The Disputed Questions on Truth*, that Aquinas, in denying the determinate truth of future contingent propositions, cannot mean that such propositions lack antecedent truth value. This is

because Craig interprets Aquinas' correspondence theory of truth as not requiring the current existence of the state of affairs to which such propositions refer. So, 'The Antichrist will be born' is true now, even though the Antichrist has not yet been born. For Aquinas, the truth of such propositions lies not in the existence of the relevant events; rather, it lies in the knower, whose intellect possesses the truth and is in conformity to the thing known—even while the latter is non-existent. Given this theory of truth, Craig reasons, Aquinas' admission that future contingents are not determinately true must mean, as Aquinas explicitly states elsewhere, that we cannot know with certainty the truth value of such propositions. Thus, for Aquinas, determinate truth is an epistemic notion, not a logical one. Not wishing to become bogged down in exegetical disputes, I will take it that this is, indeed, Aquinas' intention.

So, then, Craig's interpretation renders Aquinas' reply to the first objection in the following manner: Aristotle's argument only shows that future contingent propositions are not certainly knowable as either true or false, not that they lack antecedent truth value. How, then, is God able to know them? In fact, if he were in time, he could not know them with certainty. But, as God's experience is outside the temporal series, the events to which future contingent propositions refer are always present to God (indeed, all events are always present to God), and so He knows them in virtue of their being present to Him. Craig quotes Aquinas as saying, 'Neither our [knowledge] nor God's knowledge can be about future contingents. This would be even more true if He knew them as future. He knows them, however, as present to Himself and future to others' (*ibid.*: 110). So it would seem that the propositions that God knows through his knowledge of vision must be tenseless ones, and thus, from God's perspective, truth is timeless. However, as Craig points out, in the *Summa Theologica* Aquinas explicitly

states that tensed propositions cannot, without loss, be translated into tenseless ones whose truth values are timeless. Rather, God knows which propositions are true at one time and false at another. We must, therefore, take Aquinas' position as holding that, while not all propositions can be rendered into tenseless ones, certainly God's knowledge of vision is exclusively comprised of such propositions. So the propositions that are the objects of God's knowledge of vision are timelessly true, but are about propositions whose truth value is temporally indexed. For example, let *P* be the proposition 'Some proposition *p* is true at t_1 and false at t_2': although *P* is tenseless and is known to be timelessly true by God, *p*'s truth value varies over time. Thus the contingency of future events is maintained because the timeless truth of propositions about those events is only known as such by God, and this does not eliminate their contingency. We will see why, below.

Another objection Aquinas considers tries to show how the possibility of God's knowledge being falsified follows from his foreknowledge of contingents. The objector claims that if God knows a future contingent event such as Socrates' sitting down, then, since the event is, by hypothesis, a contingent one, Socrates may choose not to sit down; in which case God's foreknowledge was mistaken. Given the impossibility of God's being mistaken, then, he cannot know future contingents, because if he did know them they would be necessary. In replying to this objection, Aquinas makes use of the necessity of the consequence (*necessitas consequentiae*) / necessity of the consequent (*necessitas consequentis*) distinction—a distinction that we saw the objector to the Type I argument rely upon in Section I. The necessity of the consequence means that the modal operator governs the entire conditional, whereas the necessity of the consequent means that only the consequent of the conditional falls within the scope of the modal operator.

Aquinas' claim is that the conditional, 'If God knows that Socrates will sit down, then Socrates must necessarily do so', is true but harmless if the necessity is interpreted as necessity of the consequence. Whereas, it is just false if interpreted as necessity of the consequent. Thus, it is necessarily the case (and trivially true) that if God, in his eternal timelessness, sees Socrates sitting down at a certain point in the temporal series, then he is indeed doing so. But it is not the case that if God sees Socrates sitting down, then Socrates' sitting down is a necessary event. Socrates may do as he chooses, but if he is seen to be sitting down, then of course he is sitting down!

Aquinas also offers an additional reply to this objection, drawing upon Aristotle's axiom that 'Whatever is, necessarily is, when it is'. The axiom reflects Aristotle's notion of temporal necessity. Temporal necessity is to be distinguished from causal or logical necessity in that it does not imply that things could not have occurred otherwise. Rather, it is meant to capture the fixity of all present and past events: necessity is imparted to such events only after (or while) they have occurred (or are occurring). Aquinas makes use of this notion by claiming that Socrates' sitting down is, in a sense, necessary. This is because all events are present to God, so it is impossible for Socrates not to be sitting down when God sees him doing so at a certain point in the temporal series. But, in the same way that my seeing your sitting down necessitates that you are sitting down without implying that your sitting down was (causally or logically) necessitated, so, too, the necessity of the objects of God's knowledge of vision is not one that removes their contingency.

One final objection that Aquinas considers draws upon the notion that for any true conditional, if the antecedent is necessary then so must the consequent be. So, given the truth of the conditional, 'If God knew that this is going to happen, then it will happen',

and the necessity of God's having known what is going to happen (i.e., the necessity of the antecedent), the event in question cannot be contingent. Thus God has no knowledge of future contingents. The objector goes on to attribute a twofold necessity to the antecedent of the conditional: it is necessary in that God's knowledge is eternal, and whatever is eternal is necessary; and in that it is a past tense proposition, and so if true, then (temporally) necessarily so. Clearly, this objection relies upon Type II style reasoning. In response to the objection, Aquinas acknowledges the truth of the premises, and argues against those who would defeat the objection by rejecting the premises, but he then goes on to reject the conclusion that God does not know future contingents.

First, he accepts that the necessity of the antecedent of a true conditional implies the necessity of the consequent. He also accepts that the antecedent in the given true conditional is indeed necessary, and thus that the consequent is necessary. As Craig points out, though, the necessity of the consequent only follows from the necessity of the antecedent if the true conditional is one of strict implication, whereby the entire conditional is necessary. Of course, Aquinas would certainly accept that the given conditional is necessary, but it is a *logical* necessity. Whereas the necessity of the antecedent is a *temporal* necessity—whether God's knowledge is viewed as eternally present or temporally past. Craig claims that this is a suspicious move for the objector to make, as well as for Aquinas to accept. Craig's worry here is akin to the objection I discussed briefly at the end of Section I, as to what transfer of necessity principle the Type II fatalist relies upon. Aquinas' objector offers an argument that purports to demonstrate the necessity of its conclusion from two premises, each of which admits of a different type of necessity. Not only, according to Craig, is the validity of such a move questionable, but it also leaves us in doubt as to what type of necessity the conclusion

admits of. Surely it cannot be temporal, as the consequent refers to a future event, but if it is logical, then what has the temporal necessity of the antecedent contributed to the argument?

Aquinas, for his part, allows the transfer of necessity, and allows that the necessity of the consequent is indeed temporal, and I think he is right to do so for the reasons I offered at the end of Section I. So, instead of attacking the objector's premises, Aquinas relies upon his response to the previous objection, and argues that temporal necessity has the uniquely attractive modal quality of not removing contingency. How can he justify the ascription of temporal necessity to a proposition about a future event? He does so, not surprisingly, by claiming that the event is not future to God, but timelessly present. Given that all of our experience is bound within the temporal series, we tend to think of a time lag existing between God's foreknowledge of a future event and the event's occurrence. But God's knowledge of things within the temporal series lies, itself, outwith that series. So, according to Aquinas, God's knowledge of events is experientially concurrent with those events. There is no question of future events having to (or failing to) conform to his present or past knowledge, anymore than there is a concern about my (perceptual) knowledge of your present actions either determining those actions or being mistaken about them. In the case of present experience, knowledge of events is necessarily conjoined with the existence of those events, but from this we do not suppose that such events lack contingency. With respect to God's knowledge of vision, all propositions are to be rendered tenseless, so there is no such thing as God's past foreknowledge of a future contingent. Rather, if God knows a proposition about a contingent event in the temporal series, then for him, that event *is*.

Even if Aquinas' use of temporal necessity is effective in establishing the compatibility of divine foreknowledge and future contingency (I'm not sure that it is), what work can his account do for us in the context of logical fatalism? His account relies very heavily on God's atemporal observation of temporal events, as well as on a relative notion of existence, according to which non-present events are non-existent *for us*, even though they exist for God. Does this picture have to obtain in order for fatalism to be false? What if God is *in* time? The point is, one would have thought that there were more general and widely accepted premises from which the refutation of fatalism follows. Furthermore, I have a worry about Aquinas' failure to distinguish between the modality of a proposition and the modality of an event. Of course, this failure is not peculiar to Aquinas, and can be traced back to Aristotle. Nevertheless, I suspect that discussing God's knowledge of events interchangeably with his knowledge of truth values of propositions bolsters the fatalist's position. Why not offer an account that maintains a distinction between propositional truth value and the fixity of events, such that an appeal to the nature of God is not required? Otherwise, we are forced into allowing such claims as that past propositions are temporally necessary, although they may refer to logically contingent events. This modally confused claim simply plays into the fatalist's hand, who will say that it is nonsense to attribute both a necessity and a contingency to a proposition, and so argue that a necessary proposition of any sort can only correspond to a necessary event. Furthermore, it seems to me that when we equate the fixity of events, which results from temporal becoming, with the temporal necessity of their corresponding propositions, we encourage the notion that the truth value of those propositions is what fixes their events. We will see more on these points in Sections III and IV of this chapter, as well as in Chapter 4. Suffice it to say for the moment, that we

may wish to defeat the fatalist without an appeal to the timelessness of God, or to the relativity of existence; and that the distinction between properties of a proposition (such as modality and truth value), on the one hand, and properties of events (such as fixity), on the other, may provide us with the means for doing so.

B. Ockham on Temporal Necessity

We now move on to Ockham's use of temporal necessity. In this sub-section, adopting the same format as in the previous one, I will present Ockham's defense of God's knowledge of future contingents by focusing on two of the objections he considers to such knowledge. As with Aquinas, I will then go on to make some comments about Ockham's use of temporal necessity. Once again, I rely on Craig (*ibid.*), but also occasionally consult Adams and Kretzmann's (1969) translation of the original material. Craig's primary sources are Ockham's *Tractatus de praedestinatione et de praescientia dei respectu futurorum contingentium*, *Ordinatio*, *Peri hermeneias*, and *Summa logicae*.

Before making our way through the objections, it will be useful to consider Ockham's conceptions of 'determinateness' and 'contingency'. With regard to the former, Ockham sometimes refers to future contingents as having 'determinate' truth value (as when he states the objections he is considering), and other times omits this modifier of truth value (as when he replies to the objections); which leads Craig to conclude that, for Ockham, there is no distinction between 'determinately true' and 'true'. As we will see, Ockham believes that future contingent propositions have a present truth value, and so, if Craig is right, he must believe that such propositions are determinately true or false. What is the basis for this belief? Craig explains that the answer is closely related to Ockham's theory of truth and his emphasis on the metaphysical priority of the present.

According to Ockham, in order for a present tense proposition to be true, its subject and predicate terms must be able to 'supposit', or stand in, for the realities which they represent, and they must do so in the right way. Craig offers the following example: '"Some A is B" is true iff there exists something for which both "A" and "B" supposit; "No A is B" is true iff nothing exists for which both "A" and "B" supposit' (Craig, *op.cit.*: 148). Now this seems straightforward enough, but Ockham will have a problem asserting the truth of non-present tense propositions, because, for him, such propositions do not refer to real entities. Or, at least, their reality is ontologically secondary and derivative to that of present entities. In either case, they are not eligible for supposition. Ockham's way around this is to require the truth of a present tense proposition as a condition for the truth of every non-present tense proposition, where the subject and predicate terms of the former concern the same realities which these terms stand in for in the latter. Furthermore, the present tense proposition in virtue of which the future tense proposition is true, must use demonstrative pronouns in the predication of its subject terms. So, it is in virtue of the eventual truth of the present tense proposition, 'This [referring to the sea battle envisioned in the corresponding future tense proposition] sea battle is now occurring in St. Andrews Bay', that the future tense proposition, 'A sea battle will occur in St. Andrews Bay', is presently true. Thus a proposition at any given time is true because of the fact that at that time, the corresponding present tense proposition (which may be identical to the given proposition) either has been, is, or will be true.

This explains why Ockham thinks that future contingent propositions have a truth value, but why would he also seemingly acknowledge the determinateness of this truth value? Craig claims that, inasmuch as Ockham attributes truth and falsity to future

contingents (where these are naturally interpreted as events or states of affairs) for him there is no distinction between these and future contingent *propositions* (*ibid.*). And since he holds that future events are determinate, future contingent propositions are determinately true or false because their corresponding events will determinately be, or determinately not be, actually present. Now, of course, in characterizing future events as determinate, Ockham is not claiming that they are causally determined or necessary; rather, he seems to be making a tenseless attribution of actuality to such events. So the determinateness is unrelated to time. If an event obtains (tenseless) in the actual world, then it is determinate. Thus, as Craig puts it, 'future contingent propositions are true or false according as they correspond with states that obtain in the actual world' (*ibid.*: 149).

Ockham's use of 'determinate' must be contrasted with his use of 'contingent'. For though determinateness can be predicated of events and propositions irrespective of temporal considerations, contingency cannot. Events are determinate because they obtain in the actual world; but since they are actualized successively, those events—and their corresponding propositions—are contingent until the former are temporally 'posited in reality' (*ibid.*). For this reason, it is important to specify the definite temporal position of any actual event in determining its modal status. So if it is presently t_p, and the event described by the (tenseless) proposition, 'A sea battle occurs in St. Andrews Bay' obtains at some future time t_f, then that proposition is determinately true at t_p, but is only contingent until t_f, at which time it becomes necessary.[8] Obviously, then, this necessity is of the temporally relative kind. For Ockham, there is no contradiction in claiming that the above proposition is determinate but contingent at t_p. The determinateness of the

[8] Nothing hinges upon the tenselessness of the given proposition—other than ease of explanation. One could offer an equally coherent, albeit more complicated, account of this 'temporal' contingency using present- and future-tense versions of the proposition.

truth value of the proposition is predicated upon the occurrence of the event it describes, and prior to t_f, it remains *possible* that that event not occur, even though it will occur. After t_f, however, this possibility is removed, and the proposition becomes necessary. Thus, Ockham's position is that prior to t_f the given proposition is possibly true and possibly false (*and* determinately true or determinately false), but that at t_f and afterward the proposition is necessarily true or necessarily false. Ockham does not actually refer to this necessity as 'temporal', rather he calls it necessity *per accidens*, or 'accidental' necessity.

It is important, yet again, to distinguish Ockham's accidental necessity—which, for the sake of consistency, I will henceforth refer to as 'temporal'[9]—from logical or causal necessity. Obviously a temporally relative necessity cannot be a logical (i.e. absolute) necessity; and, as Craig points out, for Ockham, *causally* necessary propositions are still temporally contingent until their corresponding events obtain (given the possibility of a free agent intervening in the natural causal chain).[10] Furthermore, it is not only future tense propositions that are temporally contingent, but also those non-future tense propositions which, nevertheless, concern future entities and events. Ockham offers the following example: 'Peter is predestined' is a present tense proposition, but given that it concerns a future event, it should be analyzed as 'Peter will be saved'; in which case it is clearly temporally contingent. So, if God saves Peter at t_f,

[9] Ockham, and contemporary 'Ockhamists', also seem to prefer 'contingency' rather than 'possibility' (as I referred to the modal characterization of non-fixity in Part I the thesis), when discussing temporal modality. In *this* respect, I will adopt the Ockhamistic usage for the remainder of this section.

[10] For Ockham, causally determined events are those that have natural causes, and cannot 'be impeded except by a free cause' (*Ordinatio* 1.38.M, Adams and Kretzmann (trans.), *op.cit.*: 89).

then the above proposition does not become necessary until that time, and remains necessary for all times after t_f.[11]

With this background information behind us, we will proceed to the objections to God's knowledge of future contingents. Ockham considers three sets of objections, each set differing according to the status of the knowledge in question: whether determinate, certain and infallible, or necessary (actually, this last set comprises arguments *for* the necessity of God's knowledge, and as such counts *against* the contingency of future tense propositions). For the sake of space, and given my interest in Ockham's use of temporal necessity, I will focus on two of the most illuminating objections with respect to that notion.

First, we will take the second objection to God's determinate knowledge of future contingents. The objector argues, in the Aristotelian tradition, that if future contingents did possess determinate truth or falsity, then necessarily the objects of God's determinate knowledge would come to pass. Thus, deliberation and taking trouble would be pointless. In his response to this objection, Ockham takes the Aristotelian position as actually involving two separate arguments for fatalism: one from the antecedent truth value of future contingent propositions, and the other from the necessity of past tense statements concerning yet future contingents (my Type I and Type II, respectively). With regard to the first argument, Ockham claims that God's knowledge of which one of a pair of contradictory future contingents will be true and which will be false, does not result in the necessity of the proposition, 'God knows this part of the contradiction will be true'. He argues that although 'God knows this part will be true' is true, it is nonetheless contingent, for it is still possible that it 'will never have been true'. This possibility

[11] According to Adams and Kretzmann (*op.cit.*: 16-20), Ockham 'denies that Peter's predestination is

allows that there is 'a capacity for its opposite without any succession' (Craig quoting from Ockham, *ibid.*: 161).

Clearly, then, Ockham here is referring to temporal necessity/contingency. The truth of 'God knows this part will be true' is based on the tenseless obtaining of the part of the contradiction God knows to be true. But as this obtaining is actualized successively, and as the actual time of the obtaining has not yet succeeded, it is still *possible* that 'God knows this part will be false' is and always was true—even though that possibility is not realized. This 'capacity' for the opposite will remain as long as the given event has not been successively posited in reality. Once it has, however, then the determinately true proposition, 'God knows this part is true', becomes necessary. That is to say, the capacity for the opposite to be true is removed, and the opposite now becomes impossible. It is important to note that Ockham is not suggesting that a proposition has the capacity for its truth value to change, or that both of two contradictories can be true; rather, the possibility for the falsity of a determinately true proposition merely requires that were the possibility realized, then it would always have been the case that the proposition was determinately false.

What does the preceding discussion tell us about God's *knowledge* of the antecedent truth value of future tense propositions? Given the contingency of such propositions, Ockham concludes that God's knowledge of them must also be contingent; and so although God knows 'This part of the contradiction will be true', up until the corresponding event is posited in reality it is possible that he will always have known 'This part of the contradiction will be false'. This observation leads to the second part of the Aristotelian objection (i.e. the Type II argument for fatalism), because God's

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necessitated by something really inhering in God in the past.'

foreknowledge is not only a fact about the present, but also one about the past (whatever he knows, he has always known). So God's presently foreknowing a future tense proposition *p* implies the truth of the past tense proposition, 'God foreknew *p*'. And if this proposition is true, goes the argument, then given its tense, it must also be temporally necessary. In which case, *p* cannot possibly be false, and fatalism is supposed to follow.

In light of the discussion of temporal contingency/necessity, above, one should be able to anticipate Ockham's reply to this objection. He claims that 'God foreknew *p*' is *not* temporally necessary. This proposition depends on the truth of the proposition, 'God foreknows *p*'; but the latter is only ostensibly present tense, because *its* truth depends on the truth of *p*, which is about a yet unrealized future event. Prior to the positing of that event in reality, both *p* and not-*p* are possible, even though *p* is determinately true. So the truth of the corresponding past tense formulation of the proposition is not grounds for judging it to be temporally necessary. Thus, God's having foreknown *p* is determined by the tenseless obtaining of the event which *p* is about, but since that obtaining is realized successively, both *p* and God's knowledge of *p* is contingent until the event is posited in reality. Until that time, God's having always foreknown not-*p* remains a possibility. In sum, then, neither the antecedent truth of future contingent propositions, nor God's past foreknowledge of yet future contingents, necessitate the occurrence of the events those propositions are about, and therefore fatalism does not follow.

The second objection and reply I will discuss is actually the first argument Ockham considers for God's necessary knowledge of future contingents, which therefore counts as an objection to the contingency of future tense propositions and their corresponding events. The argument claims that, as the necessity that one must attribute to God is nothing other than immutability, so whatever is in him immutably is also in him

necessarily. So, God knows a future event immutably, and therefore also necessarily. Ockham replies by first distinguishing two different ways in which God's knowledge might be said to be necessary. First, the claim may refer to the *way* in which future contingents are known by God. In this sense, Ockham would affirm the necessity of God's knowledge, because he believes that 'the divine essence itself is one single necessary and immutable cognition of all things...necessary and contingent' (Adams and Kretzmann, *op.cit.*: 67). Alternatively, one might refer to the *content* of God's knowledge as necessary, in which case the modal operator attaches to the actual set of propositions known by God. As we have seen, Ockham denies this type of necessity for God's knowledge, because God knows future tense propositions only contingently. So, with regard to the objection, Ockham argues that since there is necessity in God, one can indeed validly infer that there is immutability, but from this immutability one cannot infer temporal necessity. For, inasmuch as future contingents are determinate, they are also immutable. But, as we have seen, Ockham tells a story that allows him to affirm this immutability without admitting temporal necessity. Their immutability is conditioned by their (tenseless) obtaining, whereas their contingency is conditioned by the antecedent possibility of their not obtaining. If this possibility is realized, then it is not the case that the object of God's knowledge has changed from *p* to not-*p*, but that his knowledge was eternally and immutably of not-*p*.

To conclude, then, Ockham offers an account of God's knowledge of future contingents that relies upon a presentist ontology and a distinctive type of necessity, that of temporal necessity. It is useful, I think, to contrast this solution with that of Aquinas. Recall that Aquinas, too, relied upon temporal necessity to refute objections to God's foreknowledge of future contingents, but that he did so by claiming that the necessity of

God's knowledge is merely temporal—because God is outside of time and all the objects of his knowledge of vision are present to him and are experienced without succession—and such a necessity does not *causally* or *logically* necessitate the truth of what it governs. Such a solution requires us to abstract from the temporal series, which would seem to be constitutive of our experience of time, in order to render the antecedent truth value of future contingent propositions fatalistically impotent. One might think, however, that the absurdity of fatalism would allow for a refutation of it which did not involve an appeal to the existence of God, or to a perspective of time (i.e. from outside looking in) so phenomenologically foreign.

Ockham, on the other hand, offers a solution that coheres with our experience of events—in that we experience them presently and successively—and so, if successful, allows not only for God's foreknowledge of future contingents, but also for the antecedent truth value of future contingents: that is, it potentially allows both for a refutation of theological fatalism as well as of fatalism *simpliciter*, where the latter is taken as a problem that is as relevant to the atheist and agnostic as it is to the theist. But now notice that if Ockham's presentist solution *is* successful, it is difficult to see what work the notion of temporal necessity is doing for him. Aquinas needed that notion because he felt compelled to acknowledge the necessity of God's knowledge, but in the same breath be able to claim that such necessity still allows for future contingents. Ockham, however, flatly denies the necessity of God's knowledge, except in the sense that it is necessary *that* God know future contingents; but *not* that the objects of his knowledge are necessary. So if he has the framework for affirming both the contingency and the determinate truth value of future tense propositions, which is all the argument requires, then why feel obliged to affirm the necessity of present and past tense

propositions, when it was that affirmation that led Aristotle to worry about fatalism in the first place? Is it to account for the fixity of past events? Here, again, we see the confusion involved in translating the fixity of events into the temporal necessity of propositions. In treating events and propositions as ontologically on a par, and in conflating two distinct notions, that of fixity and that of necessity, Aristotle, Aquinas, and Ockham all contribute to a confusion that only works in the fatalist's favor. Over the course of the next two sections I will elucidate on, and provide a justification for, this claim.

III. Temporal Necessity: A Contemporary Perspective

A. Hard Facts/Soft Facts

We now turn to some contemporary accounts of temporal necessity. By way of introduction to the contemporary discussion, let us recall Ockham's distinction between propositions that are properly present or past tense, and those that are only present or past tense in their wording, but which really are about future entities. It was this latter category of propositions that allowed Ockham to claim that propositions about God's past foreknowledge of future events are not temporally necessary. Given that those entities—which the terms in such propositions supposit for—have not yet been successively realized (i.e. not actualized in the temporal series), these propositions are not, strictly speaking, about the past. Recall, as well, that the whole point of this distinction was to refute the fatalist's argument which claims that the necessity of past propositions infects the future propositions entailed by them, thus rendering their corresponding events necessary and not within our power. It is this distinction between propositions and events that are strictly past, and those that are not, that has dominated the contemporary discussion of temporal necessity. Ockham's account of the distinction is somewhat

vague, and contemporary philosophers have taken it upon themselves to systematize an account that might withstand the barrage of counterexamples often hurled at each new proposal. The terminology adopted by many to express this distinction has been that of 'hard facts' vs. 'soft facts'; the former refers to facts that are strictly about the past, the latter to facts that are seemingly about the past, but whose status as a fact depends upon future contingencies. So, propositions about hard facts are meant to be temporally necessary, and those about soft facts are, as yet, temporally contingent. That is the basic idea, although things get much more complex.

It is interesting to note that the preponderance of the contemporary literature on theological (as well as logical) fatalism is concerned with providing a watertight analysis of temporal necessity, and that, as I mentioned in the introduction to this chapter, this preponderance indicates a general acceptance of the idea that the Type II argument poses the most dangerous threat to the non-fixity future. By the time we get to the end of this chapter, I hope to have shown that this idea is incorrect. With regard to the necessity of the past, Craig (1986) offers a fairly comprehensive survey of the various positions on the hard fact/soft fact distinction and its relation to temporal necessity, and then goes on to make his own proposal. I will first discuss a few of these positions, and will then move on to a discussion of Craig's proposal. Craig attributes the original distinction between hard and soft facts to Pike, whose use of the terms occurs in the context of a debate on theological fatalism between him and Saunders.[12] Saunders, in defense of freedom, had claimed that we have the power to act so that God's foreknowledge would have been different. To make his point, he uses the example of his ability to act so that Caesar died 2009 years before the writing of his article. Caesar's dying 2009 years before Saunders'

article, though in the past, depends in part upon Saunders' future actions (prior to the writing of the article). Pike responds by acknowledging that there are some facts about the past (soft ones) that are not 'fully accomplished' or 'over-and-done-with', and Saunders' example is one these; but he claims that God's past belief about future events is not one of these, and is instead a hard fact (Craig quoting Pike, *op.cit.*: 66).

B. Freddoso on Temporal Necessity

That is the origin of the contemporary debate on temporal necessity. The two accounts I want to take a closer look at are Freddoso's and Plantinga's. Freddoso (1983) offers a very complex and sophisticated analysis of temporal necessity which relies upon possible worlds semantics. I will not however, go through an exposition of the analysis; it will suffice for our purposes to restrict the discussion to the following definition in which the analysis culminates:

1. p is temporally necessary at (w, t) iff (a) p is logically contingent and (b) p is true at t and at every moment after t in every world w^* such that w^* shares the same history with w at t (Freddoso, *op.cit.*, p.276)
2. w shares the same history with w^* at t iff (a) w and w^* have identical series of $t_i<t$ and (b) for any submoment k and time $t_n<t$, k obtains at (w, t_n) iff k obtains at (w^*, t_n) (Craig, *op.cit.*: 75)
3. A submoment k for any (w, t) is the set of immediate propositions true at (w, t) (*ibid.*)
4. An immediate proposition p must be (a) an atomic, non-quantified, present-tense proposition and (b) temporally indifferent (*ibid.*)
5. A temporally indifferent proposition p is such that either (a) p is not logically contingent or (b) it is possible that p, as well as its negation, be true at a first, a last, and an intermediate moment of time (Freddoso, *op.cit.*: 272)

Freddoso claims that the superiority of his account over others lies in its recognition of Ockham's doctrine of the metaphysical 'primacy of the pure present' (*ibid.*: 258). For two worlds to share the same history prior to t, they must share all the same submoments in the same order, where these submoments comprise true and *purely* present tense propositions. By this, Freddoso means that the submoment of a world w at any given time t determines what is true at t in w, and does so in a way that does not

[12] Saunders, J., 'Of God and Freedom', *Philosophical Review* 75 (1966): 219-25 and Pike, N., 'Of God and

depend upon what has been or will be true at any other times in *w*. So 'Caesar died in Rome' is now temporally necessary because 'Caesar is dying in Rome' is a member of a past submoment which obtains at some point prior to the present in any world that shares the same history as our world prior to the present. 'Katie will wash her car the day after tomorrow', however, is not immediate, and is therefore not the member of any submoment. So even if this proposition is true in our world at a time (say, the day after its utterance) prior to Katie's washing of her car, there are other worlds sharing our identical history up to that time in which it is not true at that time. It is, therefore, temporally contingent until she washes the car, at which time its present tense version becomes the member of a submoment shared by other worlds with identical histories up to *that* time, and thus becomes temporally necessary. In this way, Freddoso hopes to show that the past truth of a yet future contingent proposition does not necessitate the corresponding event, because such past truths do not, on his account, qualify as temporally necessary.

Craig criticizes Freddoso's account on the grounds that his criterion for the temporal indifference of a logically contingent proposition is too strict. 5(b), above, requires that the present truth value of a temporally indifferent, logically contingent proposition remain unaffected by the question of whether there are any past moments, as well as by the question of whether there any future moments, in the given world. This criterion is meant to capture Ockham's pure present. But Craig claims that if we assume the logical possibility of time travel, then it might be the case that a temporally indifferent proposition—according to Freddoso's criterion—might turn out to be temporally contingent. Say, for example, that the truth, at t_1, of 'Socrates drinks hemlock' depends

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Freedom: A Rejoinder', *Philosophical Review* 75 (1966): 370.

upon the truth, at t_2, of 'I don't go back in time and prevent Socrates from drinking hemlock'. Here, the truth of the first proposition is counterfactually dependent upon the truth, at a later time, of the second proposition; in which case, the former would seem to be temporally contingent (i.e. expressing a soft fact). But since there is a possible world w^* which shares all the same submoments with ours up through t_1, and where Socrates drinks the hemlock at t_1, but where t_1 is the last moment of time in w^*, so 'Socrates drinks hemlock' at t_1 meets Freddoso's criterion of temporal indifference, and accordingly becomes temporally necessary at t_1. In our world, however, it is within my power to render 'Socrates drinks hemlock' false, so how can it be temporally necessary?

As Craig points out, Freddoso actually presupposes the incompatibility of his account with the possibility of time travel and other cases of an agent's power over the past. For if we allow the possibility of such cases, then it would seem that very few propositions about the past will turn out temporally necessary. Freddoso, however, claims that such cases are 'flights of fancy' and depend upon 'outlandish' metaphysical assumptions (*ibid.*: 260). While Craig shares Freddoso's scepticism about the *metaphysical* possibility of time travel—and also extends this doubt to backwards causation and a retrocausal account of precognition—he claims that the *logical* possibility of time travel, at least, cannot be so easily ruled out. Craig's motivation for this claim is the logical parallel he sees between divine foreknowledge and time travel[13], and his point is that if Freddoso's account is not compatible with the logical possibility of the latter, then it also cannot allow for the former. The distinction between the logical possibility of time travel and that of backward causation may seem an idle one, but it is one that Craig is keen to make. He claims that the former possibility, as in the case of

[13] Craig (1988a) explicitly argues for this parallel.

divine foreknowledge, is constituted by the possibility of the counterfactual dependence of earlier events upon later ones, and that this is a weaker kind of dependence than that constituted by direct backwards causation. We will see, later, how this distinction plays a role in the formulation of Craig's own account of temporal necessity, but it will be beneficial first to consider his appraisal of Plantinga's account, as that account also makes use of the notion of counterfactual dependence.

C. Plantinga on Temporal Necessity

Plantinga (1986) takes the debate in a different direction by divorcing the hard fact/soft fact distinction from the concept of temporal necessity. He claims that we cannot define temporal necessity in terms of what is strictly about the past, because we lack a sufficiently clear concept of strict pastness. Intuitively, perhaps, we want to say that a proposition that is strictly about the past is one that does not entail a proposition that is about the future. But this is not very helpful, because almost any past tense proposition entails a future one. 'Abraham existed in 1995 BC', for example, entails that Abraham will not begin to exist (i.e. exist for the first time) in AD 2005 (Plantinga, *op.cit.*: 251-2). According to Plantinga, then, we should search in a different area to discover what is definitive of temporal necessity. His suggestion is that it be defined in terms of an event's lying within, or not lying within, one's power. His initial proposal is that a proposition p is temporally necessary at t iff p is true at t and it is not possible both that p is true at t and that there exists an agent S and action A such that (i) S has the power at t or later to perform A and (ii) if S were to perform A at t or later, then p would have been false (*ibid.*: 253). So a proposition is temporally necessary iff it is true and its truth is not counterfactually dependent upon an agent's subsequent actions. This construal yields intuitive results as to the temporal contingency of many soft facts, such as the one

expressed by the proposition, 'God believed eighty years ago that Paul would mow his lawn in 2010'.[14] It is within Paul's power to perform a future action (*viz.* that of avoiding mowing his lawn in 2010) which, if he does perform it, would make the above proposition to have (always) been false. So the proposition is temporally contingent and Paul is free to act as he chooses (even though he does, indeed, mow his lawn).

The results, however, become less intuitive when we discover that many, if not most, hard facts also come out as temporally contingent. Craig offers the following example: suppose that if Pilate had been just, then he would not have crucified Jesus. Suppose, furthermore, that God's sole purpose in causing Christ's conception and birth was for him to die a redemptive death. From these suppositions, Craig infers that it would have been true to say that if Pilate had been just, Christ would not have been born.[15] But here we have an earlier event, Christ's birth, being counterfactually dependent upon an agent's subsequent actions. So a hard fact like Christ's birth is, prior to his death, temporally contingent. Plantinga, for his part, also considers several counterexamples of his own, and concludes that his initial formulation has the consequence that very few facts about the past are temporally necessary. He says, 'Indeed, it is not easy to think of *any* contingent facts about the past that are ...[temporally] ...necessary in that sense' (*ibid.*: 257, Plantinga's emphasis). And so he considers how he might remedy this weakness. He first considers whether the correct indicator of temporal contingency might not actually be the possibility of backward causation, rather than the presence of counterfactual dependency of past upon future. I take it that Plantinga has something like the following in mind: in the scenario above,

[14] I borrow this example from Plantinga (*ibid.*: 253), but I have updated the year.
[15] Of course, Christ might have died a redemptive death at the hands of some other agent if not Pilate's. Whomever that agent might have been, however, if he or she would have had it in her power to order

although Christ's birth may be counterfactually dependent upon Pilate's actions, Pilate's being just does not *cause* Christ to not be born. My future actions, however, could cause God's past foreknowledge to have been other than what it was. But Plantinga shelves this proposal because it involves 'a number of profound perplexities—about agent causation, the analysis of causation, whether backward causation is possible, the relation between causation and counterfactuals', and instead offers what he calls a 'related suggestion' (*ibid.*: 258).

The new suggestion is simply an adjustment to the original definition, one that adds the requirement that the relevant counterfactual dependence of the truth of a past fact upon a future agent's actions must be a (logically) necessary dependence in order for the past fact to be temporally contingent. This adjustment allows that though it is possibly true that if Pilate had been just, then Christ would not have been born, it is not necessarily true; and thus Christ's past birth is temporally necessary. The adjustment does not, however, render propositions about God's past foreknowledge temporally necessary. Take the proposition expressed by 'God foreknew Pilate's injustice'. This is a true proposition which, prior to Pilate's having condemned Christ, Pilate had within his power to make *necessarily* false; since, if Pilate had behaved justly, then, given God's essential omniscience, 'God foreknew Pilate's injustice' could not possibly ever have been true. Accordingly, God's foreknowledge is not temporally necessary.

As Craig explains, Plantinga's aim here is to remove from consideration—when determining the temporal modality of a proposition about the past—the merely possible counterfactual dependency of the past upon the future. Backtracking counterfactuals that are not (logically) *necessarily* true cannot be an indicator of temporal contingency,

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Christ's death, then he or she might not have done so out of a sense of justice; in which case, we still have a

because such an indicator would not do justice to the intuitive idea of the necessity of the past. Once one allows merely possibly true backtracking counterfactuals to indicate temporal contingency, then one must allow that there are an infinite number of them that could possibly be true; in which case the past is not nearly as necessary as the proponents of temporal necessity seem to think it is. In restricting the class of backtracking counterfactuals that indicate temporal contingency to necessary ones, then, Plantinga sees himself as vindicating our intuitions about the necessity of the past without rendering facts such as God's past foreknowledge as hard.

Craig, however, criticizes Plantinga's adjustment to his original proposal for being *ad hoc*. He claims that if the original proposal 'did not capture our intuitive understanding of temporal necessity, [the second one]... does less so' (Craig, *op.cit.*: 80). I tend to agree. Why should the addition of the entailment requirement (*S*'s performance of *A* at *t* or later *entails* the falsity of *p*) reflect anything more significant than Plantinga's desire to avoid the counterexamples to his original proposal? As Craig says, if the latter was too *weak* a definition of temporal necessity (rendering a hard fact like the past birth of Jesus temporally contingent), the adjusted definition is too *strong*. For the entailment adjustment forces us to judge that past propositions, whose truth values really do counterfactually depend upon an agent's future actions—though only contingently—cannot be temporally contingent. But if they are temporally necessary, then how can it still be the case that they might have been false? Recall that this amounts to the same objection that Craig alleged against Freddoso. If we are to allow that true backtracking counterfactuals are indicators of temporal contingency at all, then it would appear that we must also allow that at least *some* of the merely contingent ones are indicators of

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counterexample to Plantinga's initial formulation.

temporal contingency. But which ones? It seems that Plantinga's proposal brings us no closer to a definition of temporal necessity. Craig, for his part, thinks that Plantinga's discussion does offer us a glimpse of the right way forward—one that can be found in Plantinga's 'profound perplexities'. And so Craig goes on to provide an analysis of temporal necessity which draws upon both Freddoso's and Plantinga's discussion. We will now turn to this analysis.

D. Craig on Temporal Necessity

Craig begins his own analysis of temporal necessity by reconsidering Freddoso's presupposition of the impossibility of time travel. Previously Craig had claimed that such a presupposition was not warranted. Now, he goes on to say that Freddoso's definition does not even require such a presupposition, as long as we allow that the truth values of some temporally necessary propositions depend upon the truth of future directed propositions. That is to say, on Freddoso's account 'Socrates drank hemlock' is temporally necessary; but given the possibility of time travel, the truth of this proposition depends upon the truth of certain propositions about a future time traveler's actions. This does not undermine Freddoso's definition as much as it undermines our intuitions about the necessity of the past. Indeed, prior to providing his definition, Freddoso insists that any account of temporal necessity must respect the intuition that no agent has it within his power to make a temporally necessary proposition false. Now Craig, in reaction to the lack of success in formulating a water tight definition of the philosophical notion of temporal necessity that coheres with our intuitions about the necessity of the past, suggests that the philosophical notion be divorced from our intuitions. Accordingly, he proposes that we amend Freddoso's account of temporal indifference so that 'p is temporally indifferent iff p is true and p would be true even if the past and future were

annihilated' (*ibid.*: 82). We then claim that a fact is soft iff it corresponds to a past or present event which is counterfactually dependent upon some future event, where the dependency is the one way dependency of a consequence upon a condition. A hard fact is one that is not so dependent. Although this proposal is similar to Plantinga's in its use of counterfactual dependence, notice that it does not rely upon reference to agents and what lies within their power. Craig does not see such considerations as being constitutive of temporal necessity.

What, then, of our intuitions? Craig acknowledges that his definitions of hard and soft facts are such that hardness and softness 'are not dispositional properties of facts, but simply characterize things *de facto*' (*ibid.*: 84). It might be the case that many facts that we intuitively take to be hard are, in actuality, soft. Given the possibility of divine foreknowledge and backtracking counterfactuals, only God knows which facts from the past are or are not counterfactually dependent upon future facts. Nor is it necessary that soft facts are only ones about God's foreknowledge, for, as we have seen, it is possible (though highly unlikely) that Jesus' birth was a soft fact prior to his crucifixion. In light of this epistemic impoverishment with respect to the counterfactual relations between past and future, Craig admits that our intuitions regarding the necessity of the past cannot come from awareness of such relations. But all this tells us is that our intuitions about the necessity of the past have nothing to do with the hard/soft distinction. In accounting for our strong intuitions about the necessity of the past, then, he claims that they are generated by the almost universal belief in the impossibility of backward causation—a belief that is justified by the 'dynamic nature of time and becoming' (*ibid.*: 89).[16] So Craig does make use of Plantinga's 'profound perplexities', but he does so not, as

[16] Here we see Craig's hierarchy, which I attempted to refute in Chapter 2, rearing its head again.

Plantinga had suggested, in order to define temporal necessity; rather, he *first* defines temporal necessity in terms of backtracking counterfactual dependence, and *then* uses Plantinga's distinction between this dependence and backward causation to explain why his definition is not as counter-intuitive as it seems. We can allow that God's past foreknowledge has for its objects soft facts, without offending our intuitive sensibilities about the necessity of the past in the process; this is because facts are soft in virtue of their counterfactual dependence upon future facts, and such a dependence does not threaten the causal imperviousness of the past, and therefore neither does it threaten our intuitions about the past.

Although the three accounts of temporal necessity we have just examined barely scratch the surface of the many contemporary accounts that have been put forward, they are fairly representative of the general *types* of accounts available. Freddoso's can be seen as representative of those which first offer an account of what is strictly in the past, and then define temporal necessity in terms of this feature. Plantinga's, on the other hand, is representative of those accounts which bypass the intermediary of strict pastness, and instead define temporal necessity directly in terms of the power of human agents. And Craig's, as we have just seen, is a sort of hybrid of both types. In what remains of this section, I will discuss Zagzebski's assessment of these three different approaches, as well as her own analysis of temporal necessity.

E. Zagzebski on Temporal Necessity

Zagzebski (1991) offers a critique of the types of approaches I have just outlined above. She discusses Freddoso's and Plantinga's accounts specifically, and though she does not respond directly to Craig's account, one can infer her likely comments on it from what she does say (she does reference Craig's paper in a footnote). With regard to Freddoso's

account—and those of which it is representative—Zagzebski criticizes them for the methodology they employ. She claims that they seek to formulate a definition of temporal necessity that meets the following two criteria: i) it is consistent with the intuitively clear cases of hard and soft facts, and thus impervious to counterexamples, and (ii) it has as the consequence that God's past beliefs (such as those about the future actions of humans) come out as soft facts (Zagzebski, *op.cit.*: 74). She notes that these criteria seem to be universally accepted as sufficient for a definition of temporal necessity, and so the debate as to the success of the definition usually centers on whether it can withstand counterexamples. Her criticism of this method is that it encourages the formulation of *ad hoc* and nominal definitions, which do not reflect a real distinction in the nature of things.

Zagzebski, alternatively, chooses to abandon the use of counterexamples in attacking these types of definitions, claiming that imperviousness to counterexamples cannot compensate for their lack of explanatory value. Her point is that though there may be an elaborate recursive definition that is capable of satisfying both criteria (i) and (ii), such satisfaction cannot constitute a real definition unless it also illuminates the strong intuition of the necessity of the past which underlies it. That intuition tells us that events which lie in the past, to include those involving beliefs about the future, are necessary and fixed in virtue of their pastness. If a definition is formulated with the purpose of denying this intuition in the case of God's beliefs, then such a negative solution to the foreknowledge dilemma must be capable of telling us something about the asymmetry of time which is independent of the foreknowledge issue; it must give us independent reasons for accepting the definition. If it does not, then according to Zagzebski, it is *ad hoc*. In other words, the definition must *first* be able to show generally what types of past

propositions are necessary, and *then* demonstrate the possibility that propositions about God's past foreknowledge are not of this type. Given that what we are after is a metaphysical account of temporal necessity, and how it is that that account invalidates the (theo)logical fatalist's argument from the necessity of the past, Zagzebski's requirements seem quite reasonable to me.

As for Plantinga's proposal, and others that attempt to define temporal necessity in terms of the power of agents, Zagzebski criticizes them for the lack of work counterfactual dependence really does for them. In the first place, she remarks that Plantinga's definition would also cover logically and causally necessary facts, since we have no power over them either. And this despite the fact that Plantinga himself, in initially characterizing temporal necessity, claims that it must be distinguished from these other forms of necessity. Even if he were to amend the definition, however, so as to preclude the logically and causally necessary, Zagzebski still claims that such a proposal, inasmuch as it is supposed to provide a definition of temporal necessity, would be unsuccessful. This is because it would remain a negative definition that only tells what facts *cannot* be if they are to be temporally necessary (they cannot be counterfactually dependent upon future actions that lie within an agent's power), it does not tell us what it is about these facts that both makes them such that they are not within our power, and also distinguishes them from causally and logically necessary facts.

Zagzebski, though, still wants to give Plantinga's proposal a chance to at least say something helpful about temporal necessity, even if failing to define it; for she recognizes that many contemporary 'Ockhamists' would acknowledge that his account is satisfied by temporally necessary propositions. Her conclusion, however, is that not only do proposals such as Plantinga's fail to offer a proper definition of temporal necessity, they

also fail to say anything informative about the concept at all. Zagzebski offers two reasons for this conclusion. First, in allowing the truth of some backtracking counterfactuals, she claims that Plantinga and others do not give due consideration to the intuition that motivates the fatalistic argument from the necessity of the past. This lack of consideration would be fine if they offered an account of why the intuition that grounds their proposal is superior to the one that the fatalist relies upon. But recall that the Ockhamist *shares* the fatalist's intuition about the necessity of the past, and simply wants to claim that God's past beliefs about future events are not *strictly* past. And Zagzebski's point is that the counterfactual dependence of the past upon the future is not compatible with the intuition that both the fatalist and the Ockhamist are meant to share.

Even Plantinga's strengthened proposal—with the entailment amendment—allows that it is possible for what we intuitively take to be hard facts still to be counterfactually dependent upon the future actions of agents. Such dependence, because it is not necessary, still allows that these types of facts are temporally necessary. But if it is *possibly* within my power to act so that a past hard fact would always have been false, how can that fact be temporally necessary in a way that coheres with my intuition about the necessity of the past? This objection is obviously similar to the one that Craig brings against Plantinga, according to which Plantinga's amended definition is too strong. The difference, however, is that Zagzebski clearly does not agree with Craig that our intuitions about the past can be separated from the philosophical notion of temporal necessity, since the fatalist's argument, and the Ockhamist's response, garner their plausibility precisely from the grounding of the philosophical notion in our intuitions. This point leads to Zagzebski's second objection.

Craig embraces Plantinga's distinction between counterfactual dependence of the past upon the future, on the one hand, and backward causation, on the other. As we saw, he claims this distinction can account for our intuitions about the past (in that these intuitions reflect a disbelief in backward causation), and that it can also account for our use of the philosophical notion of temporal necessity (in that that use is governed by counterfactual dependence of the past upon the future); and so there is no conflict between the two. Zagzebski, however, claims that this distinction that Plantinga, Craig, and others make use of does not really do the work they want it to. Many philosophers who endorse Plantinga's type of proposal, she says, make a great deal of fuss over whether backtracking counterfactuals entail backward causation. For her own part, Zagzebski is puzzled by this issue, since the whole point of Ockhamism is to show that God's past beliefs about future human actions are not *strictly* in the past; in which case, the counterfactuals in question are not *strictly* backtracking, nor is the causation involved, if it is indeed entailed by the counterfactuals, strictly backward causation. If, on the other hand, God's past beliefs are really in the past, then it matters very little whether the one entails the other, since our intuitions would seem to require that a strictly past event be immune both to causation *and* to counterfactual dependence. This point leads Zagzebski to conclude that 'it is difficult to see how we can accept the claim that it is possible that we have counterfactual power over the past without a clarification of what is strictly in the past' (*ibid.*: 82). But since that clarification is presented by Plantinga in *terms* of counterfactual power, and is formulated specifically to address the foreknowledge dilemma, it fails to explain how it is that we can have counterfactual power over God's past beliefs.

So where does this leave us? We have seen that temporal necessity and the hardness of the past are very difficult concepts to pin down. Perhaps we need to back up and take a look again at the origin of the concept in our intuitions. When we agree with the fatalist that the past is necessary, what motivates us? Zagzebski argues that it is our belief in the asymmetry of time that grounds our intuitions about the necessity of the past; where the asymmetry involved is both an ontological as well as a modal one. We think of the past as being real, whereas the future is not. Similarly, we find traces of the past in the present, but the present contains no traces of the future. The modal asymmetry, of course, goes hand in hand with the ontological, because given that the past is real and is not temporally located with the present, there is nothing we can do about it. It is fixed, whereas the future, according to our intuitions and experience, is not. This is all quite straightforward, but Zagzebski's point in stating the obvious is to highlight that many of the philosophical discussions about temporal necessity have lost sight of the concept's origins. She claims that if the intuitions that ground the concept are sound, then there should be no temptation to heed the fatalist's argument from the necessity of the past. This is because the pre-analytical defining characteristic of the concept is such that if a proposition is temporally necessary, then it was not always so. This is what distinguishes it from other types of necessity (such as causal or logical)—a proposition instantiates it *accidentally*. If a philosophical analysis of the concept omits this characteristic, then the concept becomes vacuous. So it is impossible for temporal necessity to yield fatalistic implications, because the non-fixity of the future is built into it (i.e. necessarily, the future cannot instantiate the necessity of the past). If, however, the intuitions that Zagzebski identifies are not sound, then, by the same reasoning, the concept of temporal necessity is incoherent. But such an incoherence is of no use to the fatalist, according to Zagzebski,

because any argument based upon an incoherent concept must fail. So regardless of the coherence of the concept of temporal necessity, the fatalist's argument (whether of the logical or theological type) must fail.

What should we make of this conclusion? There is certainly something persuasive about Zagzebski's reasoning, but it is not entirely satisfying. She thinks that any argument for the fixity of the future, based on a conception of temporal necessity according to which both past and future events instantiate such a necessity, just begs the question against the non-fixity of the future. But, as I indicated in Section I, this is not going to definitively refute the Type II logical fatalist, since he is simply going to return the charge of begging the question. Fortunately, however, Zagzebski does not leave it at that. Although she claims that if the concept of temporal necessity is coherent, any fatalistic argument from the necessity of the past must fail, she is keen to provide a more informative diagnosis of that failure. In particular, she argues that theological fatalism cannot simply be reduced to logical fatalism, and is therefore a more serious problem than the latter (even though ultimately doomed to failure as well). I would like to discuss this argument because, in the course of it, she makes some interesting and helpful conclusions about the distinction between propositions and events with regard to the concept of temporal necessity.

So, for the sake of philosophical diagnosis, Zagzebski assumes the coherence of temporal necessity, and assumes the validity of the fatalist's argument, thus concluding that one of the fatalist's premises must be false. And with regard to logical fatalism, she argues that it is much clearer which premise fails and why it does so. The logical fatalist requires that the past truth of a proposition is now temporally necessary, so that 'there is nothing we can do now about the fact that it was true in the past' (*ibid.*: 25). Ockhamists

deny this premise in the case of a special class of propositions; and, as we have seen, attempts to define this class have not met with great success. Zagzebski, on the other hand, chooses to deny the premise on the grounds that the truth of propositions 'is not the sort of thing to which accidental necessity applies' (she also attributes this option to Sorabji) (*ibid.*). Instead, both the intuitive as well as the philosophical basis of temporal necessity require that it only be instantiated by *events*. I think this is the right move to make, both for the reasons that Zagzebski offers, as well as for some of my own. My reasons, however, lead to the more drastic conclusion that temporal necessity is a misnomer, and that it is not any type of necessity whatsoever. I will present my reasons in Section IV; first, however, we will discuss Zagzebski's reasons.

She claims that her conclusion is supported both by our intuitions about the modal and ontological asymmetries of time, as well as by the philosophical development of the concept of temporal necessity. With regard to our intuitions, both the reality and the fixity of the past are intuitions about past events, not propositions. With regard to the philosophical concept of temporal necessity, as developed by Ockham and other medieval philosophers, Zagzebski claims that it relies heavily on Aristotle's act/potency distinction. Only past events have been actualized, in virtue of their having occurred; future (contingent) events, have not yet occurred and therefore exist in mere potency. There is no analogous application of these distinctions to propositions. Propositions, unless given a very counter intuitive ontological status, are not real/unreal, fixed/non-fixed, or actual/potential—at least not in the way that is intended when discussing the common sense asymmetry between past and future. Given this, it must be constitutive of the concept of temporal necessity that only events (or states of affairs) can properly be said to admit of it. So, she argues, the intuitive and philosophical grounding of temporal

necessity does not support the fatalist's application of the concept in the Type II argument. If this is right, then propositions about the past, such as 'At t_1 it was the case that at t_3 Susan will go to Anstruther', are not temporally necessary, and therefore neither is the entailed future tense proposition.

Of course, Ockham thought temporal necessity applied to propositions about the past, but Zagzebski argues that such an application is not consistent with the philosophical concept that he himself helped establish. She has no objection to the isomorphic treatment of propositions and events in other contexts, but claims that the sense of 'events' or 'states of affairs' which we intend in the context of temporal necessity is narrower than the one that is isomorphic with propositions. So, propositions like the one above in the Type II argument do not refer to events or states of affairs of the sort that motivate our intuitions about the necessity of the past. The state of affairs that corresponds to this proposition is *its being the case at t_1 that Susan will go to Anstruther at t_3*. But, in what sense can *its being the case at t_1 that Susan will go to Anstruther at t_3* be said to be an ontologically real, fixed, and temporally actualised state of affairs? *Its being the case that Susan will go to Anstruther at t_3* does not *occur* or become actual at t_1, and thus this is not the type of state of affairs to which any intuitively consistent notion of temporal necessity applies.

This insight about the relation between propositions and events in the context of temporal necessity allows Zagzebski to conclude that theological fatalism is a different and more difficult problem than logical fatalism. The latter requires that the past truth of propositions which entail future propositions be temporally necessary. In light of the argument above, Zagzebski can deny this and so defeat the logical fatalist. The theological fatalist, however, claims that it is God's past beliefs (in conjunction with his

essential omniscience), that necessitate future events; and propositions about the past beliefs of agents *do* correspond to ontologically real, modally fixed, and temporally actualized events or states of affairs. Therefore, if such events are temporally necessary, then the opponent of theological fatalism must show that the future events entailed by them are immune to the necessity of the past. In the course of her book, Zagzebski does attempt to show this, but I will not discuss those arguments here. I want, now, to redirect our focus exclusively to logical fatalism, and to offer my own analysis of the role temporal necessity plays in the Type II logical fatalist argument.

IV. Temporal Necessity: A New Analysis

Although I agree with Zagzebski as far as her conclusions go, I think more can be said about temporal necessity. I want to take a closer look at the concept, using the distinction between necessity *de dicto* and necessity *de re* as a medium for analysis. There are two ideas I would like my discussion to motivate: The first is that the logical fatalist is not a likely candidate to have ever relied upon temporal necessity in arguing for his doctrine. In connection with this idea, I should note that I am unaware of any sincere fatalist who does make use of the concept—as we have seen, it is most often used by anti-fatalists to argue *against* ULD. And the second is that its modal oddities make it an inappropriate and dubious tool for use in constructing a fatalistic argument (regardless of whether one sincerely embraces the doctrine or not).

We begin with a brief review of the *de dicto/de re* distinction. Necessity *de dicto* is the necessity of a proposition—the type of necessity that Zagzebski concluded was not appropriate to the traditional concept of temporal necessity. Necessity *de re*, on the other hand, is the necessity of an object—specifically, the necessity of an object's

exemplification of a given property. The following examples will help to refresh the reader's memory of this distinction:

(1) 'All bachelors are unmarried' is necessarily true.

(2) The number three is necessarily prime.

(1) is a *de dicto* attribution of necessity. It involves the claim that the truth of the given proposition is one of necessity. (2) is a *de re* attribution, which is a claim about the object referred to by the expression 'the number three'—specifically, a claim about that object's exemplification of the property of being prime. In every possible world in which that object exists, it is prime. Thus a *de re* attribution of necessity is a claim about an object, namely, the claim that some property is essential to it; whereas a *de dicto* attribution of necessity is a claim about the modal status of a proposition's truth value.

Now, then, how might our notion of temporal necessity apply *de dicto*? According to Zagzebski, it cannot do so. Intuitively, temporal necessity is a notion about the fixity of past events, not about the fixity of propositions about the past. Furthermore, for the logical fatalist the law of excluded middle applies timelessly to all propositions, regardless of their subject matter, and truth is truth *simpliciter*. So if the logical fatalist is unwilling to temporally relativise truth, it is unlikely that he would be willing to temporally relativise the modal status of truth—in which case we should be wary of attributing the Type II argument to the sincere fatalist. Nevertheless, for the sake of the analysis, let us consider how we might formulate an attribution of temporal necessity *de dicto*. Consider the following claim (I assume throughout that the embedded proposition in (3) is true):

(3) 'Susan goes to Anstruther at t' is temporally necessarily true.

To make it clear that it is the necessity of the past that is intended, we can modify (3) in the following manner:

(3*) 'Susan goes to Anstruther at t' is (temporally) necessarily true at t+n.[17]

Now apply a similar formulation to our example proposition from the Type II argument, and we have the following:

(4) 'At t_1 it was the case that at t_3 Susan will go to Anstruther' is (temporally) necessarily true at t_2.

Following Zagzebski, we concluded that (4) was false because temporal necessity is a concept originating in our intuitions about past events and states of affairs, not past propositions; and (4)'s corresponding state of affairs is not the sort to which those intuitions apply. What about (3*), though? If, indeed, Susan does go to Anstruther at t, then that event is temporally necessary after t, and therefore (3*) would seem to be a valid application of temporal necessity *de dicto*. So perhaps, after all, temporal necessity *does* apply to certain propositions. But notice the procedure we have had to use in order to determine the truth of (3*) and the falsity of (4). We have had *first* to determine whether the given proposition's corresponding event is temporally necessary, and only then could we determine whether the given proposition itself is temporally necessary. We will revisit this point in a moment.

Now consider the *de re* application of temporal necessity. Given that necessity *de re* is the necessity of an object's exemplification of a property, we should think of the

[17] One might think that the translation from (3) to (3*) would allow us to drop the 'temporally' modifier from the claim altogether. But even though the temporal relativity of the necessity in (3*) is made explicit by indexing the claim to an open ended time frame, it remains important to distinguish the time indexed necessity from, say, logical or metaphysical necessity.

event in question in any attribution of temporal necessity *de re* as an object. Accordingly, we can convert (3) into its corresponding *de re* claim:

(5) Susan's going to Anstruther at *t* is temporally necessary.

Again, since temporal necessity is simply the necessity of the past, we can make the temporal relativity of (5) explicit:

(5*) Susan's going to Anstruther at *t* is a (temporally) necessary event at *t+n*.

But this is still not quite what we are looking for, since we are trying to show *what it is* for an event to be (temporally) necessary, and (5*) is not informative on that point. We need to determine what property a temporally necessary event, as the object of a *de re* claim, might exemplify essentially. It would seem the most likely candidate would be that of fixity. If conceiving of the past as necessary is motivated by the fact that past events have *occurred*, and the occurrence of an event is a matter of that event becoming fixed, then all events that are temporally necessary must share the property of fixity. So a temporally necessary event is one that exemplifies the property of fixity necessarily. We can now modify (5*) to get what we're after:

(5**) Susan's going to Anstruther at *t* is a (temporally) necessarily fixed event at *t+n*.

So apparently (5**) best captures what it means for the given event to be temporally necessary. It is a *de re* modal claim about an event's exemplification of the property of fixity.

As we saw above, the procedure for determining whether a *proposition* legitimately admits of temporal necessity involves first determining whether it applies to the proposition's corresponding *event*. So, what our analysis of the *de dicto/de re*

application of temporal necessity shows is that temporal necessity *de dicto* only seems to apply—if it applies at all—derivatively, and *in virtue of* its *de re* application. Now compare this with (1), our original *de dicto* example. Does an evaluation of that claim require the same procedure? Of course not. (1) is true in virtue of the analyticity of the proposition 'All bachelors are unmarried', not in virtue of any *de re* claims about the constituents of that proposition. As a matter of fact, there are many *de dicto* claims that do not have the same truth value as their corresponding *de re* claims; whereas in the case of temporal necessity *de dicto*, a given claim *must* have the same truth value as its corresponding *de re* claim. Indeed, the latter *determines* the former.

These observations call into question the modal legitimacy of temporal necessity. Its temporal relativity makes it an unlikely tool for any proponent of truth *simpliciter*, and the fact that it functions in ways very different from our standard modal notions, casts doubt on the plausibility of its use in the Type II argument. At least, one wonders whether a modal notion that functions so differently in its *de dicto/de re* applications, might not also function differently in its logic. If it does, then we have reason to question the modal inference relied upon in Type II.

Conclusion

If Zagzebski's conclusions are correct, the Type II argument for logical fatalism fails. Why, then, the need to cast further doubt on Type II with my extended analysis of temporal necessity? The reason is that questioning the modal legitimacy of the concept can help us to better understand the logical fatalist's real motivation. This understanding, in turn, will allow us to identify the real threat to the non-fixity of the future. In order to bring out these points, I would briefly like to take up the role of fatalist's advocate with

respect to the *Type I* argument, and then conclude by suggesting a shift in the anti-fatalist's argumentative strategy.

On my analysis of temporal necessity *de re*, we saw that an event, such as *Susan's going to Anstruther at t*, is (temporally) necessarily fixed at *t+n*. But notice, then, that an attribution of temporal necessity *de re* actually requires the attribution of *two* properties. There is the first order property, fixity; and there is the second order, modal property, temporal necessity. The latter involves the modal claim that the fixity of the event is essential to it (the event exemplifies this property necessarily). Thus, in order to cash out the *de re* claim of temporal necessity, we needed to include the additional claim of fixity. The distinction between these two properties gives the fatalist room to claim that he is innocent of the modal fallacy attributed to him in his Type I argument. For, he can deny that he ever intended to attribute *necessity* to future events based on the present truth of their corresponding propositions, and claim that he was merely attributing *fixity* to them on that basis; in which case the scope fallacy objection does not go through.

Now, I must admit that I am quite baffled by what it might mean for an event to be (temporally) necessarily fixed. Perhaps fixity is like existence, in that any object that has it, does so essentially. So perhaps there are no (temporally) contingently fixed events. The analysis is not, however, meant to show the way temporal necessity *actually* works; it is meant to show how it might work if the notion were *actually* viable. The analysis has demonstrated that temporal necessity is a very odd modal notion, and that it is gratuitous in light of the requirement to include fixity in all its attributions. These results suggest that the notion is *not* a viable one, and that our intuitions about the permanence of the past are best captured simply by the *non*-modal notion of fixity. At least, they suggest that if the permanence of the past does involve modality, it is a

modality that cannot be captured by the box operator of modal logic. So the lesson to be taken from the analysis is not so much that temporal necessity and fixity come apart, but that temporal necessity is a misnomer and should be discarded altogether.

Finally, these observations give us reason to think that the logical fatalist, in claiming that future events are fixed and inexorable, is *not* making a claim that can be expressed and evaluated with modal logic. For the participants in the fatalist/anti-fatalist debate, it matters very little whether the actual future is only (broadly logically) contingently fixed (i.e., whether the future is not fixed—or is fixed differently—in other possible worlds), or whether it is necessarily fixed. Either way, both parties to the debate would agree that fatalism follows. The logical fatalist is making a claim about the nature of truth: regardless of its modality, truth is permanent. What is true (today) about tomorrow *cannot* be false tomorrow, even if that truth is a contingent one. So it is not that the truth about tomorrow *could not have been* other than what it is, but simply that it *is not* other than what it is, and therefore is not within our power to affect. And it is this fact that seems to threaten the non-fixity of the future.

So we have come, via an in depth survey of the concept of temporal necessity, full circle from the offhanded dismissal of the Type I argument in Section I. What my extended analysis of temporal necessity has shown is that the real threat of fatalism comes from what might seem the unlikely direction of antecedent truth value, and that *this* is where the counter offensive should be focused. In the next chapter, we will launch such a counter offensive.

CHAPTER 4

ANTECEDENT TRUTH AND LOGICAL FATALISM (REVISITED)

Introduction

In Chapter 3 we saw that the Type II argument fails on the basis of the modal illegitimacy of temporal necessity. The analysis of temporal necessity also gave us reason to think that the real threat of logical fatalism comes from the Type I argument. My purpose in this chapter will be to remove, or at least significantly reduce, the threat Type I poses to the asymmetry of fixity. I will not achieve this, however, simply by dismissing Type I on the basis of a perceived scope fallacy; rather, through a systematic analysis of two different versions of the argument, I hope to discover and discredit the metaphysical doctrine that informs the argument. I begin in Section I with an assessment of Taylor's assertion of fatalism. Then in Section II I discuss Dummett's presentation and refutation of fatalism, which occur in the larger context of his attempt to demonstrate the logical possibility of a non-fixed past. Finally, in Section III, I go on to assess whether he does, indeed, establish this possibility.

I. Taylor's Argument: The Naval Battle

In his article 'Fatalism', Taylor (1968) offers an argument which is meant to show that time is symmetrically fixed: just as it is not within our power to alter past events, so, too, are we unable to avoid future ones (*both* past *and* future events are fixed). His strategy is first to present an argument whose conclusion affirms the uncontroversial view that the past is fixed, and then to present the exact analogue of that argument with respect to the future. The idea is that if we accept the former we cannot help but assent to the latter (without rejecting certain assumptions).

Taylor's argument can be interpreted as an attempt to deduce fatalism from ULD. ULD tells us that the truth value of a proposition is timeless—if it is true, it is eternally true. Taylor, of course, is not alone in his belief that ULD implies fatalism; for, according to several interpretations of Aristotle's *De Interpretatione* 9, Aristotle also believed the implication, and therefore chose to abandon (or modify, depending on the interpretation) the law of excluded middle with regard to future contingent propositions. Taylor, however, assumes that the law of excluded middle must apply to all propositions, and that it must do so in the same manner. Furthermore, he assumes that time, in itself, has no metaphysical efficacy. It does not have the power to change the way things are—the mere passage of time can neither impart truth values to propositions which previously were without them, nor can it impart determinateness to the truth values of propositions which were previously indeterminate. Taylor goes on to make the stronger claim that any characterization of past and future events that claims that the former are fixed and the latter not, must concede a similar power to time. In other words, for time to be asymmetrical, it must have the power to change events from being within our power to being not within our power. If, in truth, there is no temporal efficacy, then time is symmetrical.

Granting, for the moment, Taylor's weaker assumptions, what of the cogency of his argument for fatalism? He attempts to draw out the connection he sees between the properties of logical determinateness and fixity, by showing that when one assumes that the future, unlike the past, is within one's power, then logical contradiction arises. The argument for a fixed future involves a scenario in which Taylor is a naval commander.[1]

[1] I omit the analogous argument for a closed past. It is intended to be uncontroversial, and Taylor's argument for fatalism does not depend upon it. However, given the strategy of his dialectic, I should point out that although the objections I offer to his fatalistic argument would also count against his analogous

We assume that his giving an order for a naval battle to occur tomorrow is a sufficient condition for the battle's occurrence. We also assume that his not giving the order is a sufficient condition for the battle's not taking place. Letting O = 'He issues the order for the naval battle' and letting Q = 'The naval battle occurs tomorrow', my formal reconstruction of Taylor's argument runs as follows:

(1) $O \supset Q$ (Assumption)

(2) $\sim O \supset \sim Q$ (Assumption)

(3) $Q \supset O$ (From (2))

(4) $Q \supset$ ($\sim O$ is not within his power) (From (3))

(5) $\sim Q \supset \sim O$ (From (1))

(6) $\sim Q \supset$ (O is not within his power) (From (5))

(7) Q v $\sim Q$ (Law of Excluded Middle (LEM))

(8) $\therefore$ (O is not within his power) v ($\sim O$ is not within his power) (From (4), (6), (7)) (Taylor, *op.cit.*: 225)

So either it is not within his power to issue the order, or it is not within his power to refrain from issuing the order, and both of these disjuncts, of course, contradict our common sense belief that one is capable of determining one's own course of action. As we saw in Chapter 3, the standard objection to this type of argument is to claim that the inferences from (3) to (4) and from (5) to (6) involve a scope fallacy. For, though it may be the case (given his assumptions) that (3) and (5) represent necessary implications, one cannot validly infer from such a necessity that the consequents of those implications are also necessary (we must distinguish between the necessity of the *consequences*, in (3) and

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argument for a closed past; nevertheless, those objections do *not* pose a threat to the fixity of past events. See my n. 3, below.

(5), and the necessity of their *consequents*). And, according to this objection, this is exactly what Taylor is doing in steps (4) and (6), by claiming that the negation of the consequents of (3) and (5), respectively, are not within his power. More formally, this objection interprets (3) through (6) in the following manner:

(3′) $\Box(Q \supset O)$

(4′) $Q \supset \Box O$ (From (3′))

(5′) $\Box(\sim Q \supset \sim O)$

(6′) $\sim Q \supset \Box \sim O$ (From (5′)).

And, clearly, the inferences from (3′) to (4′) and from (5′) to (6′) are invalid.

In Chapter 3 we saw that there are some forceful considerations which call into question the validity of this objection. Here, I will add a couple more. In bringing this objection against the fatalist, we must assume either that his logical pedigree is of the very lowest, or that he is deliberately committing a fallacy that he hopes to pass off as a valid move. Neither of these assumptions seems very likely to me. Given the impressive list of philosophers who have offered this type of argument in some form or another (going back to Aristotle), and given that some have been so convinced by it so as to be motivated to invent new logics to accommodate its conclusion, I think perhaps a bit more charitable treatment of the argument is in order. Secondly, the scope fallacy objection is certainly not very *metaphysically* informative. Recall that we are attempting to discover the metaphysical picture that informs the fatalist's move from ULD to fatalism. If such a move is fallacious, then we want to know why the fatalist does not see it as such.

Accordingly, let's take a look again at the suspect inferences from (3) to (4) and (5) to (6). Those inferences seem to require a suppressed bridge premise for their validity; for they are only valid if something like the following statement is true:

(3.5) A proposition's admitting of a truth value determines that the event to which that proposition refers is not within one's power.

Or perhaps:

(3.5′) A proposition's admitting of a truth value fixes its corresponding event.

Now, there are some opponents of fatalism, particularly those who feel motivated to postulate a third or indeterminate truth value, who might think that the appropriate version of (3.5) is perfectly straightforward and uncontroversial. But even if it is true, and it is the case that truth value and fixity are constantly conjoined, they are at least logically distinct. If, perchance, (3.5) *cannot* be established, or can be refuted, and we accordingly remove (4) and (6) and strip Taylor's argument of the 'within his power' operators, then it becomes trivial and quite innocuous:

(1) $O \supset Q$ (Assumption)

(2) $\sim O \supset \sim Q$ (Assumption)

(3) $Q \supset O$ (From (2))

(5) $\sim Q \supset \sim O$ (From (1))

(7) $Q \vee \sim Q$ (LEM)

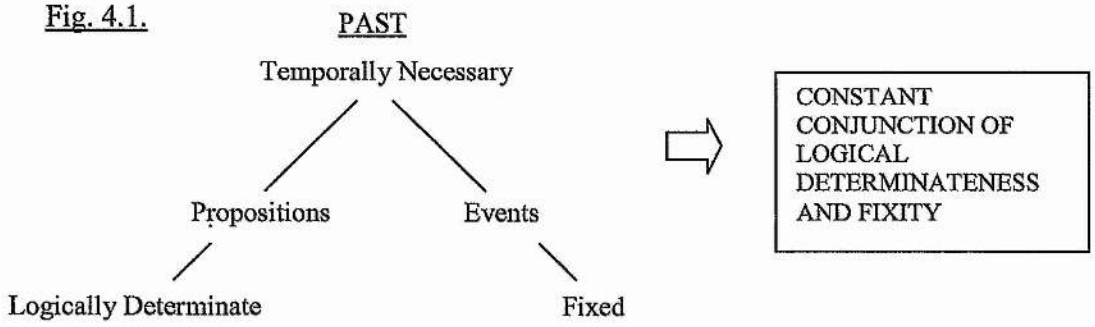
(9) $\therefore O \vee \sim O$ (From (3), (5), (7))

Given assumptions (1) and (2), this argument simply states that if there is a naval battle tomorrow then he issues (or has issued) the order, if there isn't then he doesn't (or hasn't), either there is a naval battle tomorrow or there isn't, therefore either he issues (or has issued) the order or he doesn't (or hasn't). The question is, what do any of these inferences have to do with what is or is not within one's power? Of course, it is the case that propositions about the past are both logically determinate and refer to events which are not within one's power. But why should these two logically distinct domains not be

divorced with regard to future contingent propositions and the events to which they refer? Or if they are not distinct, then is their overlap so obvious that no argument is required to establish it? It seems that Taylor simply helps himself to the assumption that because there is a fact of the matter, one cannot do otherwise. But surely it is open to us to object that if one chooses to do otherwise, then the fact is not what it is if one does not choose to do otherwise.

I think we can attribute this overhasty assumption on the part of Taylor to the muddling effect of the notion of temporal necessity. As we have seen, in addition to its questionable modal legitimacy, temporal necessity is easily conflated with logical determinateness. The process of conflating the two (see Fig. 4.1, below) involves first noting that the past is temporally necessary in two respects: propositions about the past are temporally necessary, *and* past events are. The former are temporally necessary in virtue of their logical determinateness (they admit of a determinate truth value, and truth value cannot change), and the latter in virtue of their fixity (past events are inexorable). We then infer that these two notions cannot be merely coincidental, but wherever we find logical determinateness we must also find fixity. Therefore, we are tempted into our dilemma, and conclude that the only way to affirm the *non*-fixity of future events, is by denying logical determinateness for future contingent propositions.

Fig. 4.1.



But it is not at all clear that logical determinateness and fixity must go hand in hand, for the former is a property of propositions, while the latter is a property of *events*. This is why the scope fallacy objection falls short of the mark and actually plays into the fatalist's hands. It requires us to equate the necessity operator with fixity, and then deny that fixity follows from the necessity of the implications in (3) and (5). But the necessity of *those* implications is not one of fixity, but one of logical consequence; so how can we make such a denial when the two necessity operators involved in stating the objection actually represent different types of necessity (logical consequence vs. fixity)? Once again, it is better to keep the notions of necessity and fixity separate, rather than risk encouraging the slide from ULD to fatalism. Of course, it is open to Taylor to object that I am simply begging the question against the symmetry of time, by claiming that the relationship between a proposition's logical determinateness and the fixity of the event to which it refers varies according to whether the proposition concerns past or future events. And this is surely how Taylor *would* object, given his assumption about the efficacy of time. My answer to that objection is to reiterate the challenge to the fatalist to show why it *must* be the case that logical determinateness and fixity always overlap. Another answer involves returning the charge of circularity against Taylor, by pointing out that his argument assumes fatalism in order to demonstrate it.

This second answer hinges upon maintaining a distinction between three different relations: implication, condition, and evidence, as those relations are contrasted by Wertheimer (1968). Wertheimer provides an account of the relation of conditionship, one which he takes to refute Taylor's argument. His claim is that the truth conditions of material implication are not equivalent to those of 'necessary condition' and 'sufficient condition'. We must distinguish between conditionhood on the one hand, and

implication on the other. Thus, 'p's being a sufficient condition of q' is not equivalent to '$p \supset q$', nor is 'q's being a necessary condition of p' equivalent to either of the former two or to '$\sim q \supset \sim p$'. In English we use the term 'condition' to delineate a relation between two distinct propositions or states of affairs, in the same way that we use terms like 'before' and 'after'. For p to be a condition of q (whether a necessary or sufficient one), it must be the case that q is in some way *posterior to* and *dependent upon* p, and that p is in some way *prior to* and *nondependent on* q. The expression, 'in some way', is to be worked out according to the type of condition involved, such as causal, logical or legal. For most conditional relations, it will usually involve the idea that for p to be a condition of q, q must result from or be a consequence of p.

In English, we also discriminate between condition relations and evidential relations, where p may be evidence for q without it being the case that p is a condition of q. Wertheimer (*op.cit.*: 359-60) offers the following example to highlight this distinction, where P = 'x being bigger than y and y being bigger than z' and Q = 'x being bigger than z': Q is a necessary condition of P, because P is a consequence of Q; therefore ($\sim Q \supset \sim P$) is true. But, although ($P \supset Q$) is true, its truth does not imply that P is a sufficient condition of Q, because Q does *not* result from P (the size of y is irrelevant to x's being bigger than z). Rather, in this context, P is sufficient *evidence* for Q, and therefore does not stand in a conditional relationship with Q, but an evidential one. Thus, generally, one cannot determine whether p is a condition of q on the grounds that the two are related by implication, but only on contextual grounds. Having determined that p is indeed a condition of q, *then* one can determine whether p is a sufficient condition of q ($p \supset q$), or a necessary one ($\sim p \supset \sim q$), or both (($p \supset q$) & ($\sim p \supset \sim q$)), on truth functional grounds. Note that, in the latter case, p's being a necessary and sufficient condition of q does not

impart conditionship to q, because q is merely a consequence of p. Thus, on Wertheimer's analysis of conditions, the biconditional does not, strictly speaking, represent a conditional relationship at all.[2]

So how does Wertheimer intend this analysis of conditions to count against Taylor's argument? Referring to my representation of Taylor's argument, above, implication allows Taylor to go from (1) to (5) and from (2) to (3); but (1) and (2) represent conditional relationships, in Wertheimer's sense (i.e. one way conditional/consequential dependence), and so the truth of (5) and (3) cannot also imply a conditional relation. Instead, those steps represent an evidential relation. More explicitly, Taylor wants to infer that O is not within his power from the falsity of Q, on the basis of the assumption that if O is true, then Q will follow. But while the truth of O may be a sufficient condition for Q's truth, the falsity of Q is *not* a condition for the falsity of O; it is, rather, *evidence* for the falsity of O. Moreover, it is evidence which does not, in the slightest, impugn the autonomy of the naval commander's will. Of course, one of the assumptions which Taylor asserts from the outset of his article is that if and only if p is a sufficient condition for q, then q is a necessary condition for p (Taylor, *op.cit.*: 223). But there are numerous counter-examples to this assumption which show that it is not necessarily true, and that its truth depends upon the type of condition involved. For example, being at least 21 years old is a necessary condition for being a voter, whereas being a voter is not a sufficient condition for being at least 21 (because one's age does not result from, is not conditioned by, one's voting status) (Wertheimer,

[2] Of course, it may be the case that Wertheimer's analysis only captures some types of conditional relationships, but not all of them. It might be argued, for example, that a pre-condition, though prior to, does not result in, that which it pre-conditions. This is only a serious objection if one attempts to apply the analysis to all conditional relationships irrespective of the context. If, based on the context of a statement, one discerns a one way conditional dependency between two relata, then it seems to me that Wertheimer's analysis is a useful tool for capturing that dependency.

op.cit.: 358). Thus, in assuming that there is a two way conditional dependency between *Q* and *O* (which is what his assumption about necessary and sufficient conditions amounts to), Taylor is, once again, assuming that truth value conditions what is within one's power—and this begs the question against the non-fixity of the future.[3]

II. Dummett's Argument: The Air Raid

Dummett (1968), in his article 'Bringing About the Past', also exploits a perceived analogy between the argument for fatalism and the argument for a fixed past, but does so with the contrary purpose of demonstrating the possibility that time is symmetrically *non-fixed*. He diagnoses the fallacy of the fatalist argument, and then claims that precisely the same objection can be made to the analogous argument for a fixed past. Thus his strategy is the exact reverse of Taylor's. In this section I will assess Dummett's presentation and diagnosis of the fatalist argument, bringing in considerations gleaned from our discussion of Taylor's argument. I will then go on in Section III to examine Dummett's analogous treatment of the past.

Dummett's argument is offered in the context of a common debate that took place in London during World War II, as to whether there was any point in taking precautions for survival during an air raid. His fatalist argues in the following manner:

1. 'Either you are going to be killed in this raid or you are not.' (LEM)
2. 'If you are going to be killed, then you will be killed even if you take precautions.' (Material Implication?)

[3] If the reader is familiar with Taylor's analogous argument for a closed past, then it should be clear that these objections would not allow him to assume, as he explicitly does, that his reading a certain newspaper article can be a necessary condition for a previous naval battle. The reading of the article cannot condition the battle in any way, but can only serve as evidence for the battle. It is the occurrence of the battle that conditions which article he reads, and *this* is why it is not within his power to read both that the battle occurred and that it did not occur.

3. 'If you are not going to be killed, then you will not be killed even if you neglect precautions.' (Material Implication?)
4. 'Hence, if you are going to be killed in the raid, any precautions you take will be ineffective.' (From 2.)
5. 'Hence, if you are not going to be killed in the raid, any precautions you take will have been superfluous.' (From 3.) (Dummett, *op.cit.*: 261)

At this point, I am assuming that Dummett interprets 2. and 3. as tautologies with the 'if...then' interpreted as material implication (for why else would we believe them?). I will have more to say on this later; but, for the moment, let's begin with 4. and 5. Initially, Dummett claims that the consequents in both 4. and 5. are what constitute the fatalistic thesis, that is to say, they deny that precautions are capable of being effective in preventing your death. Given the truth of 2., according to Dummett, the fatalistic conclusion in 4. follows indisputably: if you are going to die even if you take precautions, then if you are going to die, precautions cannot cause you to live. The inference from 3. to 5., however, is more dubious, in that it says since avoiding precautions does not lead to your death, the taking of precautions cannot be a causal factor in your not dying. As Dummett rightly points out, we want to object that 'it may be just the precautions that I am going to take which save me from being killed' (*ibid.*: 262). His diagnosis of where the fatalist's reasoning goes wrong involves allowing 2. and 3., but claiming that the sense of 'if' which makes these premises true also leads to a fallacy in the inference from 3. to 5.. According to Dummett, the latter inference can only be valid if the consequent of 3. (1*, below) is incompatible with 2*, below:

1* '(Even) if you do not take precautions, you will not be killed.'

2* 'If you do not take precautions, you will be killed.' (*ibid.*)

But, Dummett claims, given the sense of 'if' that makes 3. true, 1* is perfectly compatible with 2*. Given this compatibility, we cannot validly infer from 1* (as the fatalist tries to do in step 5.) that the taking of precautions is causally superfluous to your not being killed. Dummett's reasoning behind this claim is that such a conclusion involves the denial of the conjunction of 2* and 3*, below:

3* 'If you take precautions, then you will not be killed.' (*ibid.*)

For if precautions were effective in preventing your death, then it would *both* be the case that if you avoid them you will die, *and* if you take them you will live. But if 2* and 3* are compatible with 1* (we have just seen that 2* is, and it should be obvious that 3* is), then the truth of 1* cannot be grounds for denying the conjunction of 2* and 3*. Therefore the inference from 3. to 5. is invalid, and thus it may be the case that your precautions contribute to your living.

Does Dummett's objection to the fatalist work? Before answering that question, let's formalize the argument and see if we can make more sense of it. Letting p = 'You will be killed in the raid' and q = 'You take precautions against being killed', we have the following:

1. $p \vee \sim p$ (LEM)
2. $p \supset (q \supset p)$ (Material Implication)
3. $\sim p \supset (\sim q \supset \sim p)$ (Material Implication)
4. $\therefore p \supset \sim(\sim q \supset p) \vee \sim(q \supset \sim p)$ (From 2.)
5. $\therefore \sim p \supset \sim(\sim q \supset p) \vee \sim(q \supset \sim p)$ (From 3.);

and

1* $\sim q \supset \sim p$

2* $\sim q \supset p$

3* $q \supset \sim p$.

So the sense of 'if' in 2. and 3. that Dummett is allowing and which, in turn, allows him to refute the fatalist, is indeed the material sense of the conditional. Dummett admits as much when he says that both 2. and 3. 'are of the form, "If p, then if q then p"' (*ibid.*: 261). Furthermore, Dummett stipulates that the conjunction of 2* and 3* (*viz.* $(\sim q \supset p)$ & $(q \supset \sim p)$) are what constitute the claim that the taking of precautions is effective in preventing your death, so the consequent in 4. and 5. is the negation of that conjunction (this is a slight revision of his earlier characterization of the fatalist's conclusion). Allowing, for the moment, Dummett's interpretation of 2. and 3. in terms of material implication, what of his claim that the fatalist's inference from 3. to 5. is invalid? Applying the truth conditions of material implication, what we find is that when we let q be true and p false, then 3. is true and 5. is false, in which case the inference is, indeed, invalid.[4] I take it that this is why Dummett claims that 'it follows from the truth of [1* and 2*] . . . together that their common antecedent is false; that is, that I am in fact going to take precautions' (*ibid.*: 262). This statement also verifies that it is the material sense of 'if' that he has in mind, for it is only on such a reading of 'if' that 1* and 2* could both be true (given that they have contradictory conclusions, 2* can only be true in virtue of both its antecedent and its consequent being false). So Dummett, in allowing the fatalist to make use of material implication truth conditions, is able to use the same truth conditions in refuting him.

Thus it would seem that Dummett has successfully detected the fatalist's fallacy, by showing that the latter cannot validly infer his desired conclusion merely from the trivial truths of 2. and 3.. One might think, however, that Dummett's analysis, though

successful, does not really hit upon what it is about fatalism that we find so counter-intuitive. It seems, after all, that what we object to in the fatalist's argument *are* steps 2. and 3.—or at least to the sense in which he intends those steps—but Dummett, in order to defeat the fatalist, supposedly allows that very sense (the material sense) and then uses it against him. The question is, however, does the sense of '(even) if' in the English language versions of 2. and 3. admit of interpretation by material implication? The fatalist requires it to do so in order for 2. and 3. to be tautological, and so indisputable. Dummett requires it in order to subsequently refute the fatalist. But it seems to me that the material sense of 'if', and the sense of 'if' implied by 'even if', are *not* equivalent connectives. According to normal English usage, the sense of 'even if' in 1* means that no matter what you do, you will not be killed. Thus, in order for the entire conditional to be true—regardless of what truth value the antecedent has—the consequent *must* be true. This means that if both the antecedent and consequent are false, the conditional is false; but the formal version of 1* (representing material implication) would still be true in such a scenario. Therefore the formal versions of 2. and 3. are *not* equivalent to their English language counterparts. In which case, though the formal versions are tautological and indisputable, the English language versions are not. This gives us scope to argue that 2. and 3. are inadmissible steps in the fatalist's argument, because it is not true to say that regardless of what actions you take, you are still either going to be killed or not killed. You are, indeed, either going to be killed or not killed, but there are causal factors—some of which include your actions—that determine which of these outcomes represents the truth of the matter.

[4] Notice that, upon Dummett's revised interpretation of the fatalist's conclusion, the inference from 2. to 4. is also invalid---contrary to Dummett's earlier claim.

Dummett's reasoning for allowing 2. and 3. is that doing so is preferable to trying to 'make out that there is a sense of "if" on which . . . [1* and 2*] . . . are indeed incompatible, but on which . . . [3.] . . . is unjustified, because it is notoriously difficult to elucidate such a sense of "if"' (*ibid.*: 263). But if it *is* the case that the use of 'even if' in 2. and 3. renders these propositions non-tautological, then 1* and 2* may very well be incompatible; for the former is based on the truth conditions of 'even if' (because it is taken from 3.), while the latter is based on the truth conditions of material implication (because it is meant to represent how being killed is a consequence of not taking precautions), and we have just seen how these two sets of truth conditions are not equivalent. In fairness to Dummett, however, although 1* and 2* may admit of different truth conditions, it *is* difficult to demonstrate that such a difference necessitates a lack of compatibility between the two statements; and I assume it is this difficulty to which Dummett refers in the quotation above. Regardless, the equivocation between 'even if' and 'if' is, at the very least, suspicious, and also points to another objection to his presentation and refutation of the fatalist's argument, one that once again draws upon the distinction between implication and conditionhood.

In the case of Dummett's fatalist, though, we cannot use the exact analogue of our objection to Taylor. This is because we are dealing with two different varieties of fatalism. Taylor's fatalism is the traditional variety, according to which, though our actions affect the future (the naval commander's order is a sufficient condition for the occurrence of the battle), they are not exercised with autonomy (he was fated to make the order). Whereas Dummett's fatalism represents a version of the Lazy Argument, whereby it is denied that our actions have effects. So, it is not fated that you should either take precautions or not do so, but it is fated that you will either be killed or not be

killed, so your freely willed actions are inefficacious. This disanalogy bars us from merely objecting to Dummett that your decision to take precautions is not conditioned by whether or not you are killed, because that is immaterial to his variety of fatalism. What we can say, however, is that just as we must distinguish between implication and 'even if', so, too, must we distinguish between implication and conditionhood. Thus, a demonstration of the incompatibility of 1* and 2* need not solely rely upon the point that their English language versions indicate two different relations, but can also make reference to Dummett's representation of both of them as material implications, a representation which is then used to demonstrate their compatibility! Thus, in the same way that Taylor uses implication to indiscriminately shift between conditional and evidential relations; Dummett, in refuting the fatalist, uses implication to indiscriminately shift between conditional and 'even if' relations.[5]

These observations bring us back to challenging 2. and 3. directly, on the grounds that they already grant the fatalist more than he deserves. For, in the absence of this challenge, the fatalist can simply respond to Dummett's objection with a shift in his fatalistic position, one that is more in line with Taylor's version of the doctrine (which is surely the more plausible of the two). He can allow that the application of the law of excluded middle to future contingent propositions does not imply that our actions do not affect the events to which such propositions refer, but claim that that application *does* imply that the decision to take such actions is not one that is freely made. So he can replace the claim that eternal truths render our actions pointless, with the claim that eternal truths determine our decisions to act. Although such a claim conflicts with 2. and

[5] Buller (1995), has offered a different rejection of 2. and 3., but one which may well reflect the equivocation between 'even if' and 'if'. He argues that the implications in 2. and 3. are invalid because of a shift in the modal context between the antecedents and the consequents. He claims that the former are

3., it nevertheless is informed by the same conception of time as those claims—a conception according to which future events are fixed by their present, or eternal, truth values. And it is not until we challenge the fatalist to show why such a conception is necessary, and to offer alternative conceptions, that we can fully refute the doctrine of fatalism.

III. Dummett's Argument (cont): The Dancing Chief

Dummett's next step is to describe a fictional situation which purports to show that the *past* might be affected by present actions, and claims that the argument we naturally want to use to deny *this* possibility is the exact analogue of the fatalist's fallacious argument. In this section, I will try to show that Dummett's analogous treatment of the two arguments is only valid on the assumption that ULD implies a symmetrical conception of time; and therefore that his presentation and refutation of the argument for a fixed past begs the question against the asymmetry of time.

The contrived scenario Dummett relates to us involves a tribal chief who dances so that his young tribesman might hunt bravely on their ceremonial initiation hunt (we assume that there are empirical grounds for asserting a real causal relationship between the chief's dancing and the young men's bravery). The young men are away for six days on their hunt, but they will have ceased hunting by the fourth day. Although the chief is aware of this, he continues to dance throughout the entire six day period (that is, until the tribal observers return with news of the young men's performance); so that the last two days of dancing—if it is not possible to affect the past—are superfluous to the bravery of the young men. So Dummett now reconstructs the fatalist's argument, but this time

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meant to be true in the actual world, while the truth of the latter is evaluated in the context of possible worlds—in some of which the consequents are *false*.

directs it against the chief's belief in the non-fixity of the *past*. Thus we have the following:

1) Either the young tribesman were cowardly or they were brave. (LEM)
2) If they were cowardly, then they were cowardly even if you dance (on the fifth and sixth day). (Material Implication)
3) If they were brave, then they were brave even if you do not dance (on the fifth and sixth day). (Material Implication)
4) Hence, if they were cowardly, any dancing you do (on the fifth and sixth day) will be ineffective. (From 2))
5) Hence, if they were brave, any dancing you do (on the fifth and sixth day) will have been superfluous. (From 3)) (*ibid.*: 265)

And, of course, this *is* the exact analogue of the fatalist's argument; and Dummett's claim is that if we accept his refutation of *that* argument and so conclude that the future is open, then we must also accept the analogous refutation of *this* argument and conclude that the past is open. As we saw, it was my contention that both Dummett's presentation—and his refutation—of fatalism rest on an equivocation; and that, regardless of the equivocation, the refutation is ultimately unsuccessful because it allows the fatalist room to shift his position without abandoning the spirit of his doctrine. It should, therefore, come as no surprise that I also reject his presentation and refutation of the argument for a fixed past. Before advancing to that discussion, however, we should first treat Dummett's illustration of how it could possibly even make sense to speak of a non-fixed past—one which could somehow be brought about by present actions.

Dummett's ingenious approach to this perplexing question is to offer challenges, on behalf of the *opponent* of the open past, to the tribal chief and his belief i) that his

dancing on the fifth and sixth day (and thus after the hunt has taken place) somehow affects the outcome of the hunt; and ii) that he is able to dance as he chooses. The challenges involve experiments in which the chief is supposed to dance *after* having learned that the young men were *not* brave. According to Dummett, as there is supposed to be something *logically* wrong with the concept of bringing about the past, we should only consider the possible outcomes of these experiments which would most support the chief's position. For if, indeed, it is logically impossible to bring about the past, then even such favorable results could not vindicate him. So Dummett imagines that each experiment results in one of the following outcomes: either a) the chief dances; or b) he is prevented from dancing by external circumstances (the sudden outbreak of war, he is bitten by a snake, etc.); or c) he performs the dances, but later discovers that the observers had (for whatever reason) lied to him, and that the young men had actually been brave. Although outcome a) counts against belief i), we can imagine that such an outcome would be infrequent enough so as not destroy the belief in i), for the dancing needn't *guarantee* the bravery to be a causal factor in it. If outcome b) were very frequent, then this would certainly be grounds for denying belief ii); in which case, such a belief would have to give way to the belief that the cowardice causes the inability to dance, which would in turn refute belief i). Again, however, we can imagine that outcome b) was not a frequent occurrence. And, of course, a sufficient frequency of outcome c) would confirm (or at least bolster) beliefs i) and ii) (the dancing really does have an effect).

As Dummett points out, though, we learn something else from the frequency of the occurrence of outcome c); namely, that the empirical evidence which led to belief i) (the reports of the observers) is now of a dubious nature. If the chief, therefore, wishes to

retain belief i), he must assume that he can never really verify whether or not the young men were brave, or at least his belief regarding their bravery cannot be held independently of his intention to perform the dances. That is, his intention to perform the dances will not be dependent upon what the observers report (for they might report cowardice when the men had been brave), rather, he will come to think that his trust in the news he hears will be dependent upon his intention to dance. He will always choose to dance, believing that this is the only way to be in a position to believe that the young men were brave. Which means, in retaining beliefs i) and ii), the chief has had to abandon another belief, iii), that we would normally take for granted, namely, that it is possible for him to know about the past performance of the young men independently of his intentions. Obviously, we think that our ability to know about past events has absolutely nothing to do with our intentions. Future events, however, are different.

If we believe, based on experience, that A causes B, and we believe that it is within our power to do A, then we cannot predict whether B will occur independently of our intention to do A: the intention determines the prediction. So we cannot consistently hold beliefs like i), ii) and iii) for either future or past events, but we normally abandon beliefs like iii) for future events, and beliefs like i) for past events (we don't, generally, believe that present actions can affect past events). And Dummett's point is that this is what lies behind the claim that time is asymmetrical: which of the inconsistent triad we choose to abandon. And his further point with regard to the chief is that if it is merely a choice that we have to make, and one had sufficient empirical evidence, one could instead choose to abandon beliefs like iii) for *both* future *and* past events, and so consistently (if a little paradoxically) claim that time is symmetrically open.

Now, I do not wish to object too strongly to Dummett's example. There are those who have accused it of being over contrived and too implausible to justify such a startling conclusion as the claim that the past might be open.[6] While I sympathize with some of these objections, they are not the focus of this chapter. Furthermore, I think it is certainly an interesting observation, and quite probably true, that anybody who wished to advocate a non-fixed past and future would have to abandon beliefs like iii) with regard to the occurrence of all non-present events. Similarly, I should think that most of us only reject beliefs like iii) for *future* events, whereas we embrace them for past events; and this must, indeed, be a reflection of our conviction that past events are fixed and future events are not yet fixed. My objection to Dummett, though, is that the rejection of beliefs like iii) for future events is *merely* a reflection of what we take to be a metaphysical fact, and in no way constitutes or conditions that fact. Nor is it simply a choice we have to make about which belief to abandon with respect to the past and future. Dummett obviously thinks that his scenario gives the chief empirical grounds for abandoning belief iii): the frequent (if not constant) conjunction of his continuing to dance and the bravery of the young men. But this frequent conjunction of present actions and past events can no more establish that the latter is a consequence of the former, than can the frequent conjunction of my use of an umbrella and the surfacing of earth worms (for both are consequences of heavy rainfall, and so are frequently conjoined, but neither is a consequence nor a condition of the other). So, while Dummett's example may be effective in highlighting an interesting connection between human agency and one's temporal perspective, I remain skeptical that it can do the work that Dummett would like it to.

[6] For one such appraisal, see Schulte (1994).

Let us now turn to Dummett's presentation and refutation of the argument for a fixed past, and the supposed analogy with the argument for fatalism. Based on my assessment in Section II, if we wish to defend the fixity of past events, then it seems to me that we had better *not* use the analogue of Dummett's fatalistic argument. That argument acquired its initial plausibility from the representation of steps 2. and 3. as tautologies (via material implication), and we saw that such a representation was dubious. We also saw that what lay behind steps 2. and 3., was the notion that the present, or eternal, truth of propositions about future events somehow fixes those events. And even if we allow Dummett's refutation to show that such a notion does not imply that one's actions are inefficacious, it is still open to the fatalist to claim that it does imply that one's actions, though efficacious, are not freely willed. So if we now wish to avoid these implications in defense of a fixed past, then we should focus on some element of past events that determines their fixity, other than that propositions about them admit of a truth value.

We concluded at the end of Part I that it is the *existence* of past events that fixes them, and in the Epilogue I will have more to say about this. For the purpose of this chapter, it will suffice to say that the argument for a fixed past should not hinge upon the fact that it is true to say now, that the young men were either brave or cowardly. For as long as the fixity (or lack of fixity) of events is thought to be determined by whether or not propositions about those events admit of a truth value, then it will always be open to the proponent of a symmetrical conception of time to claim that time can only be asymmetrical if ULD is false. Taylor and Dummett are two such proponents, but whereas Taylor is guilty of conflating the two distinct domains of logical determinateness and fixity, by inferring their necessary coincidence in the future from their coincidence in

the past; Dummett would have us do the opposite, by suggesting an analogy between the logically determinate yet unfixed future, and a logically determinate yet unfixed past. In light of these observations, although the proponent of a fixed past would certainly assent to 2) and 3), he or she should not try to use these statements as premises from which to infer the ineffectiveness of the chief's continuing to dance. That ineffectiveness has nothing to do with—is not determined by—the truth of propositions about the past bravery of the young tribesmen. This is why Dummett can show that the superfluity of the chief's dancing does not follow from the truth of the proposition 'If the young men were brave, then even if the chief doesn't dance, they will still have been brave.' According to the defender of a fixed past, the superfluity of the chief's dancing is conditioned by an altogether different metaphysical fact—namely, the fact that past events have occurred, and are therefore fixed and cannot be altered!

So the preferred argument for defending the fixity of past events should not be fashioned in the same mold as the argument for the fixity of future events, because past events are different than future ones. In so fashioning the argument for a fixed past, Dummett assumes the symmetry of time, and is therefore able to refute the argument and thus the asymmetry of time. The preferred argument must not only call into question the presumed dependence of the fixity (or non-fixity) of events upon logical determinateness, but must also offer an account of what the fixity (or non-fixity) of events *does* depend upon.

Conclusion

In conclusion, then, we have seen that there is indeed an implicit metaphysical doctrine that underlies the Type I argument. It is the doctrine that there is a constant and necessary relationship between determinate truth value and the fixity/non-fixity of events.

But we have also seen that this doctrine requires an explicit defense, before we should allow it to be used by the Type I logical fatalist. For logical determinateness is a property of propositions, and fixity is a property of events, and the two are therefore of a different logical character; and thus their constant conjunction cannot simply be assumed on the basis of their conjunction in respect of past propositions and events (nor can the constant conjunction of logical determinateness and *non*-fixity be inferred from their conjunction in respect of future propositions and events). And, if they are not constantly conjoined, then the way is open to embrace both a robust ULD, as well as the asymmetry of fixity. Nevertheless, although that way is open, we have yet to fully traverse it. We have challenged the proponent of the symmetry of fixity to defend an, as yet, undefended assumption. We have not, however, fully refuted that assumption. In order to do so, and in order to provide a more thoroughgoing rejection of the Type I argument, we should try to offer an account of i) *why* the truth values of propositions do not fix their corresponding events, and ii) *how* events do get fixed. It is my hope that the pastist conception of time resulting from our discussion in Chapter 2 will provide the framework for answering these questions. In the Epilogue, I sketch a proposal for how it might achieve this.

EPILOGUE

PASTISM AND LOGICAL FATALISM

Introduction

We now return to the pastist conception of time that I suggested at the end of Chapter 2. Recall that we were led to that conception because we concluded that a robust asymmetry of fixity requires an asymmetry of ontology according to which the past exists and the future does not; *and* because such an ontology, if it is going to do the work required of it in grounding the asymmetry of fixity, cannot simply be a presentist ontology in disguise, nor can it imply a B-Theoretic ontology. The claim that past events exist and are manifested in the continued existence of their thisnesses from the time of their becoming[1] avoids implying a B-Theoretic ontology; and the claim that *only* past events exist clearly distinguishes my pastism from presentism. Furthermore, I claimed that the non-existence of present events is not as counter-intuitive as it might initially seem; since this is not to say that the present is *unreal*, but simply to say that the present should not be thought of as a temporal region that contains events. It is, rather, a temporal boundary that separates existing, fixed past events from a non-existing, non-fixed future.

That is a summary of where we stood at the end of Chapter 2. In Chapters 3 and 4 we left the topic of temporal ontology, and its bearing on the asymmetry of fixity, in order to investigate whether the laws of logic threaten that asymmetry. And, though we went some distance towards showing that determinate truth about the future does not imply fatalism, we fell short of supplying a thoroughgoing refutation of that alleged implication. My intention in this epilogue is to pick up where we left off in Chapter 2, by sketching a more detailed account of pastism; one that not only clarifies and fills in some

[1] Or, more strictly, from the time that they *have become*.

of the blanks, but one that also suggests answers to the questions we concluded Chapter 4 with. To restate, those questions were i) *why* don't the truth values of propositions fix their corresponding events, and ii) *how* do events get fixed? It will also be of great benefit, however, to consider my conception of time in relation to a close relative, that of Tooley's, so that my account emerges as one that is fully informed. Accordingly, in Section I I will sketch my account and explain how I intend it to answer questions i) and ii), in Section II I will compare and contrast it with Tooley's, and finally, I will conclude with some comments on what remains to be done.

I. A Pastist Conception of Time

A. Initial Statement of the Conception

The pastist conception of time I will be sketching here is a hybrid A-B-Theory. This is because it claims that *both* static *and* dynamic aspects are constitutive of the concept of time, neither being reducible to the other. In espousing such a theory, am I having to compromise on the A-Theoretic intuitions that I have been taking so seriously throughout this thesis? Not at all. According to my conception, there are eternally existing tenseless propositions (states of affairs) that are yet future, but only some of these are true, and so only some will occur; and only those that have fully occurred are, properly speaking, events. The static aspect of time corresponds to the totality of tenseless propositions, the dynamic aspect corresponds to concrete, (past) tensed events. The latter are determinate entities that have occurred (or have become real), and therefore are the only events that exist *simpliciter*. Thus the A-Theoretic intuitions of objective temporal becoming and the non-existence/non-fixity of the future remain fully intact.

Now, in allowing a static aspect to also be constitutive of time, I am not claiming, as McTaggart (1908) did, that the order of all events in time is strung out in a static B-

series, and that the A-theoretic conception of temporal becoming merely adds to this the spotlight of the present running over the series. Although McTaggart's conception is also a hybrid theory (at least until he infers the unreality of time), it assigns completely different roles to the static and dynamic aspects of time. The resulting combination, so McTaggart argued, leads to paradox. It is a common criticism of hybrid theories of time that they are susceptible to this paradox. As we will see, however, my assignment of roles to the static and dynamic aspects of time, and their resulting combination, can avoid McTaggart's paradox. But before progressing to that discussion, I should say some more about my use of terminology, and spell out in greater detail what I intend.

B. Terminology: States of Affairs, Propositions, and Events

Given that my use, above, of the term 'states of affairs' may be deemed non-standard, in this sub-section I will provide some background and explanation of my use, and say how I take states of affairs to be related to propositions and events. Following Wolterstorff (1979), I take an event to be a distinct entity from a state of affairs. A state of affairs is a *proposition*, and, if it exists at all, it exists necessarily and eternally. But, as Wolterstorff states, 'of those [states of affairs] that exist, some are capable of occurring and some not; some do occur and some do not; and some occur necessarily and some contingently' (Wolterstorff, *op.cit.*: 178). So states of affairs that exist do so abstractly, and the propositional content of these states of affairs can be true or false, and their truth or falsity can, in turn, be contingent or necessary. He goes on to point out that events are different, since there is no distinction between an *event's* existing and occurring. So, for Wolterstorff (who is a presentist), an event is 'an occurrence of a state of affairs' (*ibid.*). Here, however, I part ways with Woltersorff, since my ontology does not include present events. So, I take an event to be a state of affairs that *has occurred*.

Wolterstorff, following Chisholm, also thinks that states of affairs, though eternally existent, can vary over time in their truth values. Above, however, I characterized states of affairs as tenseless. What is my motivation for such a characterization, and does such a characterization conflict with my A-Theoretic intuitions and ontology? The answer to the latter question is 'no', since I agree with Tooley that one can embrace the concept of actuality at (or as of) a time, without giving up on the concept of truth *simpliciter* (see Section II, below). As for the former question, the motivation for claiming that states of affairs are tenseless is precisely to allow for the correspondence of true states of affairs with events that will be (but have not yet been) actualized, i.e. with events which, from the temporal perspective, do not yet exist. I realize that in light of the standard views about correspondence, this statement will sound incredible, but I will be providing a defense of it in Section I.C, below.

As for the distinction between states of affairs, thought of as propositions, on the one hand, and events on the other, I hope that the discussions in Chapters 3 and 4 have sufficiently motivated this distinction, and the logical coming apart of these two entities. I do not wish to suggest that the two are not intimately connected, for there is no question that truth must, in some way, supervene on being. But, intuitively, truth is a property of propositions, and being, in this case, is the *existence* of events, where the former are *abstract* entities, and the latter *concrete* entities. Given, then, that a particular state of affairs S, and the event E described by it, are of a different logical character, and given that S and E cannot share all the same properties, it is only natural to speak of them distinctly, even if, in many contexts, they are isomorphic with one another.

There is another issue about terminology that I should discuss briefly in this subsection, and that is the conception of 'event' that I intend. Three of the most

fundamental, and controversial, questions regarding the status of events are whether there really are any, whether they are metaphysically basic or reducible, and what their nature and structure is. Clearly, given that the guiding intuition throughout this thesis has been one about events, I think there are events, and I will not begin a defense of that position at this point in the thesis! I can only hope that the reader has shared this opinion, or at least indulged me in it, over the course of the thesis.

As to whether events are metaphysically basic or reducible, I am not convinced (not yet, at any rate) that this question has a substantial bearing on the current project. Nevertheless, I will say that there is something highly intuitive about the idea that events are *not* fundamental items of ontology, and that they are, instead, reducible to objects (or substances). Even if this is right, however, I see no contradiction in endorsing that position and maintaining all that I have said about events. In particular, I see no contradiction between the reducibility, or derivability, of events, and maintaining that events are states of affairs that have occurred. I will, therefore, provisionally endorse the position that events are reducible to objects (or substances), with the understanding that if persuaded that these views on the nature of events *were* contradictory, then I would be inclined to *reject* the reducibility of events.

As to the nature and structure of events, in addition to what I have already said about them, I take it that events are concrete particulars with non-zero duration. They are concrete because they are spatio-temporally located and have substances as their constituents. They are particulars, as opposed to universals, in that they are not repeatable. And, in light of my argument (in Chapter 2, Section IV.D.) from ontic determinacy to the conclusion that only past events exist, I obviously am assuming that

events must have some duration, however small.[2] Furthermore, if there are instantaneous events, then it makes little sense to say that such events do not exist until they have fully occurred. Here, however, I need to be careful, since the possibility of instantaneous events is largely assumed among philosophers, and so if I deny that possibility, I will need to provide some justification for the denial. I confess that I am not sure what the way forward is in this matter. Perhaps I could just bite the bullet and deny instantaneous events, or at least relegate them to the realm of theoretical entities, by claiming that there are no *natural* events that could be instantaneous. In support of this position, Simons (2003: 377) points out that modern physics appears to show that no event can be registered below the minimum time span of 10^{-43} seconds (the so-called *Planck* time). Alternatively, perhaps there is a way to incorporate instantaneous events into a pastist ontology. Either way, some more work would have to be done, but it is work that I will leave for a future (not yet existent!) date.

C. Pastism and Logical Fatalism

Having provided an initial statement of pastism, and having elaborated on my use of terminology in that statement, I am now in a position to sketch a more detailed account of the pastist conception of time, as well as state how I intend for it to supply the framework for a thoroughgoing refutation of logical fatalism. Given that pastism is a hybrid conception of time, whereby static and dynamic aspects are both constitutive of it, I will first sketch the nature of the static aspect, then the dynamic, then say how they combine to form a unified conception.

[2] To remind the reader, I argued that if one denies the existence of future events and affirms the existence of present events, then present events have non-existent temporal parts. It was partly on the basis of this (as I see it) absurdity, that I concluded that there are no present events.

As I stated above, according to the pastist conception, the static aspect of time is the abstract domain of tenseless, eternally existing states of affairs. Given that these states of affairs are both tenseless and eternal, their truth values do not vary over time. Obviously, some of these states of affairs will express logical and atemporal necessary truths (and impossibilities), and will therefore not be indexed to any particular time. But many others will express contingent truths (and falsities) about events in time, and these *will* be time indexed. Of those states of affairs that are (eternally) true, some *have* occurred and some *will* occur. Notice, then, that on this conception, though there are no future *events*, there *are* true states of affairs that are future directed. I grant that this picture might raise concerns regarding correspondence, and I will address these below, but it should not raise any other concerns. Events are concrete entities that do not exist until they have fully occurred and are made determinately complete, and states of affairs are abstract entities that eternally exist and are determinately truth apt. So it should come as no surprise that the latter are indexed to abstract times that do not concretely exist.

I should also stress, here, that I am not making any epistemological claims about these states of affairs, I am simply postulating their existence. There is no reason to think that we could have access to all of the true, tenseless, states of affairs that exist—in particular with respect to those that are future directed. But this epistemological restriction should not have any metaphysical ramifications. Presumably there exist truths (and falsities) even about worlds in which there are no intelligent beings capable of knowing them, so it should hardly be a restriction upon the existence of true, future directed, states of affairs that they are inaccessible.

We now progress to the dynamic aspect of time, which is the temporal, concrete domain of events. All events are past and exist *simpliciter*. And, though this existence is

a tenseless one, it is not—as it is in the case of states of affairs—an eternal one. Events exist *simpliciter* because they have occurred, and thus their tenseless existence is *from a point* in time. This existence is manifested in the logical traces of events, *viz.* their thisnesses. The thisness of an event E exists from the moment that E has occurred, and at all subsequent times. The thisness of E is not only the logical trace, or manifestation, of E's existence, it also provides a model for how such existence is possible. Such a model is advantageous, since one may well ask, 'What can it mean for an entity to tenselessly exist from a point in time, and how is it possible?' And, if one allows that Adams' account of thisnesses and time is possible, then these questions are easily answered.[3] That is, if one allows that it is possible that there are properties that are not purely qualitative, and that these properties only exist for actual, non-future individuals, then it is clearly possible that an entity can come into existence and continue to exist, even though its ontological basis ceases to exist. We can modify this general framework for the case of events, and claim that though they cease to occur, they continue to exist tenselessly; for if they did not continue to exist, then how could we account for the existence of their thisnesses?

Now, it is at this point that I must make some further modifications to the conclusions derived from Adams' work on thisnesses. Adams, of course, is not a pastist (since he acknowledges present events), and so my interpretation of his position, and the conclusions I drew from that interpretation, do not entirely conform to my pastist conception of time. Recall that I interpreted Adams as holding that the thisnesses of past events exist presently (and at all times subsequent to their initial instantiation). What

[3] See Chapter 2, Section IV.

shall I say about this now, in light of my pastist ontology? There are, I think, three possible answers to this question.

The first is to retain the above account of thisnesses, and simply explain away the seeming contradiction with pastism. The thought would be that even though the ontological basis of *E*'s thisness (*E**) is a concrete entity, *E** is an *abstract* entity, and the claim that only the past exists is a claim about concrete events. The second possible answer is to modify my view on the existence of thisnesses, and claim that they do not exist temporally at all, but are, instead, atemporal. That is to say, once *E* has occurred, and *E** has been instantiated, then *E** does not exist at all subsequent times, it exists eternally (in one direction, as it were). Would there then, in this case, be any real distinction between an event and its thisness, and would it not be redundant postulating the existence of the latter? Yes and no, respectively. An event is a concrete temporal entity that exists tenselessly from a point in time, an event's thisness is an abstract entity that exists *eternally* from a point in time. The final possible answer is simply to jettison the whole concept of a thisness as being unhelpful in elucidating pastism. Here, again, I am uncertain as to the best way forward, though I am reluctant to endorse the final answer, as I find Adams' arguments for the existence and nature of thisnesses intuitively appealing and persuasive.

Now for the unification of the static and dynamic aspects of time, and the answering of questions i) and ii). Contingently true states of affairs are tenseless propositions indexed to a time. Though these states of affairs are static in the sense that they exist eternally and do not vary in truth value, the events to which they correspond are dynamic, concrete entities that come into existence as time passes. An event is a state of affairs that has occurred. How, then, are true states of affairs made true? They are

made true, of course, by correspondence with the events that make them true. The difference, however, between truth as correspondence on this view and on the conventional view, is simply that truth as correspondence on the pastist view is not subject to the artificial restriction of truth as *simultaneous* correspondence. I say 'artificial' because nowhere is it argued that truth as correspondence is a relation that can *only* obtain between two co-existing entities, i.e. a true proposition and an event—it is merely pre-supposed. And this pre-supposition reveals a prejudice towards treating propositions and events as of the same logical character. But given the system outlined here, states of affairs and events, though intimately related, are of a radically different logical character.

The objector, no doubt, will wish to respond that regardless of how different in logical character a state of affairs and its corresponding event are, it is nonsense to suggest that a state of affairs can be made true *now* by an event that does not exist *now*. This, however, is not my claim, and the objection reveals the extent to which the objector fails to acknowledge the difference between static states of affairs and dynamic events. It is never the case that a state of affairs is true *now*, rather, a true state of affairs is true *simpliciter*—its truth is eternal, not temporal. Of course, strictly speaking in pastist terms, it is also not the case that an event is real *now*, since an event does not exist until it *has occurred*, and it then exists *simpliciter*. But, for this very reason, the existence *simpliciter* of an event is rooted in its temporality, whereas the truth *simpliciter* of a state of affairs is rooted in its eternalness. Given, then, the disparate domains of states of affairs and events, the simultaneous restriction on truth as correspondence is inapplicable and completely without justification.

So true states of affairs can only be true in virtue of the occurrence of their corresponding events, but the former do not *become* true as the latter become real, rather, they are *eternally* true because they *have occurred*. Given this pastist framework, we are now in a position to answer questions i) and ii). Truth values of future directed states of affairs do not fix their corresponding events because they are eternally made true (or false) by their corresponding events having occurred. For example, '*E* occurs on Jan. 1st, 2025' is made eternally true by *E*'s having become real on that date. So truth supervenes on being, but in a surprisingly unconventional manner. As for question ii), given that events are not fixed by the truth values of their corresponding states of affairs, and given the arguments in Chapters 1 and 2, events are fixed by their having occurred, and in virtue of their existence *simpliciter*.

As for McTaggart's Paradox, assuming its legitimacy, it should be evident that this particular hybrid conception does not fall foul of it. Pastism says the only events that exist are past events, so they do not admit of such incompatible properties as past, present, and future—they are all and only past. Nor could one claim that events, on a pastist ontology, admit of different, and incompatible, degrees of the property of pastness. Past existence is existence *simpliciter*, and so all events are ontologically on a par.

II. Pastism and Tooley's Hybrid Conception

The pastist conception of time I have just sketched bears a resemblance to Tooley's (1997) conception in some respects, but it also is strikingly dissimilar in others. In this section, I will briefly compare and contrast the two conceptions of time, beginning first with a summary of Tooley's conception.

Tooley defends a theory of time that is fundamentally dynamic, but which denies five theses often associated with the A-Theory. The dynamic aspect of his theory is

encapsulated in the claim that different events or states of affairs exist at different times. He says,

> The tensed approach to time that I shall be defending involves the claim that, while the past and present are real, the future is not. The central idea underlying this view is that the passage of time involves events, or states of affairs, becoming actual, with the present—the boundary between the past the future—being the point at which that happens. (Tooley, *op.cit.*: 27)

The five theses that Tooley attributes to the conventional A-Theorist and which he rejects are as follows: i) that tenseless temporal concepts are to be analysed in terms of tensed ones; ii) that the concepts of past, present, and future are semantically basic ones; iii) that tensed statements do not, contrary to the B-Theorist's claim, involve indexicals; iv) that the idea of a conceptually basic, tenseless, existential quantifier that ranges over all entities must be rejected; and v) that the concept of truth *simpliciter* must be abandoned in favor of the concept of truth at a time (*ibid.*: 29). And, as we saw in Chapters 1 and 2, Tooley also thinks that causation is the most fundamental aspect of time, determining its direction and nature. This view is also contrary to most versions of the A-Theory.

How does my view compare and contrast? Clearly, I agree that the past exists and the future does not, but disagree that the present designates a temporal region at all. One might think that Tooley and I do not really disagree on this point, since he claims that the present is a boundary, and I have used this same metaphor in describing pastism. But Tooley does acknowledge the reality of the present, and, in particular, the reality of present events, so he obviously does not consider the argument from ontic determinacy that I used against this position. I have also made clear in Chapter 2 that I disagree with Tooley's views on the relation between time and causation, and have argued that the proponent of a dynamic theory of time cannot use causation as the foundation of temporal asymmetry. What of the five theses, regarding the relation between tensed and tenseless concepts, that Tooley rejects? I essentially agree with Tooley that these theses should be

rejected on a pastist conception of time. Nevertheless, there is a some disagreement between us in the details, and a discussion of this disagreement will help shed light on my view.

Tooley endorses the concept of truth at a time *and* truth *simpliciter*. He thinks the concept of actuality at a time, a concept which he takes to be primitive and unanalyzable, demands the former endorsement, but he offers an analysis of tensed propositions in tenseless terms, *plus* the concept of actuality at a time, to show that all propositions are also true or false *simpliciter* (but not all true or false at a time).[4] I will not get into the details of the analysis here, but I think Tooley presents a good case for the claim that, given the unanalyzability of the concept of actuality at a time, the truth of tensed propositions supervenes on the truth of tenseless ones. Despite, this, however, Tooley thinks he still requires tensed propositions and truth at a time to allow for correspondence. And, since he requires truth at a time, he must allow that classical logic fails for some tensed propositions (*viz.* those about the future).

This is where I part company with Tooley, since, according to my pastism, the states of affairs that constitute the static aspect of time are all tenseless. So I endorse Tooley's helpful analysis of tensed propositions, but given that very analysis, I think the concept of truth at a time, and the counterintuitive rejection of bivalence that attends it, is unnecessary. As I said, Tooley's motivation for retaining truth at a time is that correspondence, together with the concept of actuality at a time, demands it. But I have suggested that on an unconventional rendering of correspondence, the concept of actuality at a time does not require the concept of truth at a time. In essence, then,

[4] See Tooley (1997: 189-212).

Tooley bites the bullet on bivalence, whereas I bite the bullet on the conventional rendering of truth as correspondence.

Conclusion

That is a sketch of pastism and its suggested role in providing a thoroughgoing refutation of logical fatalism without abandoning classical logic. Obviously, a great deal more work is required. As I have noted, I need to either accommodate, or defend a rejection of, instantaneous events, and I need to say more on the role that the thisnesses of past events play in a pastist conception of time. In addition to these points, it would be beneficial to provide a thorough treatment of Tooley's reduction of tensed propositions, as well as argue more substantively that his reliance on truth at a time, in light of that reduction, is not required by a dynamic conception of time.

Finally, I am desirous of grafting the pastist conception of time into a theistic framework, and then applying it specifically to the problem of *theological* fatalism. The natural thought would be that the static domain of tenseless states of affairs exists in the mind of God, and that his knowledge of those states of affairs that are contingently true is conditioned by their corresponding events having occurred. In addition to offering a thoroughgoing refutation of theological fatalism, my hope is that this account of the relationship between God's knowledge of events and the ontological status of those events, will also provide fertile ground for a discussion of God's eternal/temporal nature. It would also be beneficial in this context to research Aquinas' views more thoroughly, since he seems to share similar views on truth as correspondence and truth *simpliciter*. It is to these endeavors that I desire next to turn my attention.

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